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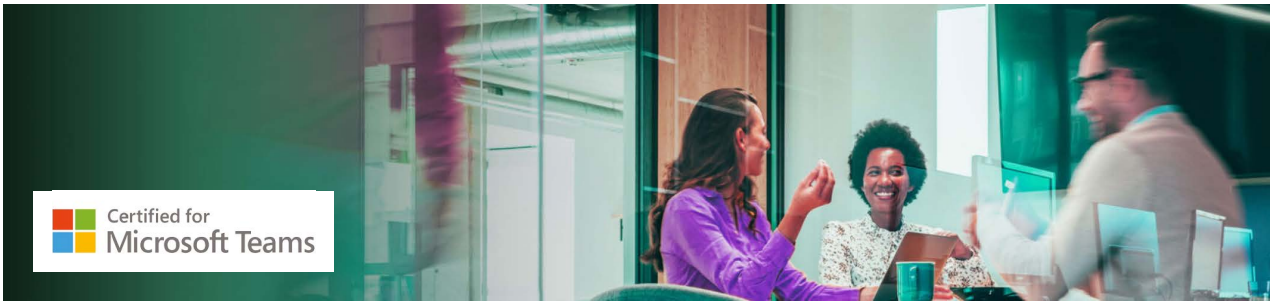
SEPTEMBER 2024
SPECIAL EDITION

infocomm INDIA

‘VISUALIZING’ INDIAN AV VIA AI



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From the Publisher

Thomas Richard Prakasam
Publisher/Editorial Director
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Welcome to this Special Edition of Systems Integration Asia, published specifically for distribution at InfoComm India 2024. Our India Editor, Ram Bhavanashi, discusses the transformative potential of Artificial Intelligence (AI) and its impending impact on how we harness and experience technology. As tech-savvy innovators explore AI's depths, Ram emphasizes the importance for audio-visual experts to stay current with these advancements to avoid being left behind. The Indian AV industry is no exception, and Ram provides an insightful analysis of the current landscape.

Continuing on the topic, Abdul Waheed, Managing Director of EYTE Technologies, highlights how AI is reshaping the industry by being integrated into office designs, meeting rooms, and training spaces. He shares three case studies where AI was effectively combined with AV to deliver meaningful solutions for clients.

This issue is packed with editorials and insights. Enjoy the read!

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AV Industry in India – Status update

‘Visualizing’ Indian AV Via AI

AI is advancing rapidly, but has a long time and space to travel before brushing the mantle and core of AV

by Ram Bhavanashi



The consecration ceremony at Ayodhya featured the biggest occasion AI-technology infusion into the AV systems integration at a very large scale level.

It’s clear that Artificial Intelligence (AI) is poised to redefine how humans harness and experience technology. As tech-savvy innovators delve deeper into this transformative technology, it's crucial for experts in the audio-visual world to stay updated on AI advancements to avoid falling behind. The Indian AV industry is no exception. SI Asia examines the current landscape.

On 22nd Jan this year, India saw history in the making. While in a very generic sense, it was the *Rāma Maṁdira Prāṇa Pratiṣṭhā* (Consecration Ceremony) at Ayodhya, it was also the first, and perhaps, the biggest occasion of AI-technology infusion into the audio-visual systems integration at a very large scale level.

The mega Place of Worship project had AI-powered audio and video analytics, as well as AI-integrated cameras installed as part of its surveillance.

Gurgaon-based AI solutions enterprise **Staq Technologies** had its Jarwis platform for the audio video analytics of the people’s movement in and around the temple premises, and its Trinetra software had embedded with AI-integrated cameras for the video surveillance.

It was said that the cameras employed enhanced high-resolution facial recognition to identify and monitor suspects at different locations with an accuracy as high as 99.7 per cent. It was also said that the cameras can perform reverse facial recognition through which they can identify a person in real-time, based on clues such as the person’s photograph.

While the puritans tended to dismiss the exploit for it being a place of worship and not an enterprise-grade ProAV, it was time the industry acknowledged the pervasiveness of AI, and more so. For a sheer acknowledgement of the critics or sceptics – so to say – there have been two massive projects commissioned recently that have significant stakes for AI.

The Jhansi Space Museum at Jhansi, and the Nathdwara Shiva temple in Rajasthan- both have an impactful deployment of AI solutions. While the Jhansi space museum had AI experiential competencies built into the Dome content display, the Nathdwara temple install exploited AI for creating experiential imagery on what is claimed to be the *‘world’s largest sitting Shiva statue.’* Says Avijit Samajdar, the chief design consultant for the project: “The statue is full of geometric surfaces that are both undulating and uneven; calculating the warping parameters for such a setting is extremely difficult. We had exploited the AI capabilities to achieve the intended precision of projection mapping.”

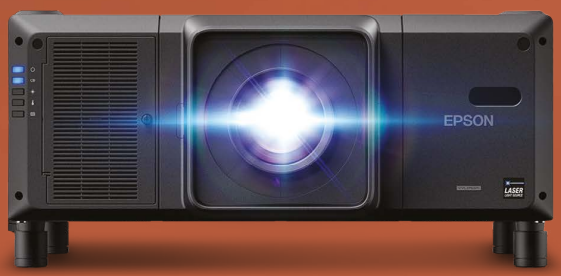
According to him, they also used AI capabilities to simulate the lighting conditions as well as the rotoscopy animation.

For the uninitiated, rotoscope animation describes the process of creating animated sequences by tracing over live-action footage frame by frame. While it can be time consuming depending upon the scale of work, rotoscoping allows

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Experiential competencies were built into the Dome content display at Jhansi space museum.

animators to create life-like characters who move just like people in the real world.

"Today, you cannot imagine an creative piece of work without AI, particularly in projects of experiential AV," asserts Avijit. Which is why manufacturers like Shure, QSC, ClearOne, JBL/Harman, and Crestron, of late, have been releasing their product solutions with built-in AI capabilities. Bosch had already been leading the video surveillance domain with AI-enabled camera systems.

Display majors Samsung and LG have been carving their own ways of AI-enabled display systems to create more impactful experiences via their displays.

While Barco had partnered with NVIDIA to develop AI and GenAI-enabled projection solutions, Delta had developed 8K projection technology with AI capability. BenQ and ViewSonic are not far behind.

Indian technology industry, or audio-visual industry, for that matter, has seen many a game changer, particularly in the last 10 years- but nothing like the one currently sweeping across the industry rank and file. Artificial Intelligence (AI) and its offshoot format Generative AI or GenAI.

If analog to digital was a big game changer, then AEC followed by beam-forming technologies have revolutionized audio domain in their own right and respect. Tech formats like immersive sound, enhanced audio, personalized soundscapes, smart hearables, and smart speakers, are all passé, and today we're talking about bone conduction, and cloud-based audio production.

"Both AI, and GenAI have not just come to stay; they have come to revolutionize the way, we humans experience technology," observes a tech guru. "Though it has not pervaded the core areas of professional AV, the day is not far."

Raymond V Soans, Vice-President, Sales & Marketing at Sigma AVIT Solutions says, "AI, GenAI, VR, XR sort of technologies are very impactful; but we don't think they have their road well laid out to march into ProAV core areas as we have known all these years. It may gain an entry, but will take some time. We, however, are watchful."

According to him, the concepts of AI, and GenAI at this moment in time are best experienced for predictive maintenance for AV equipment set-ups, personalized preferential experiences, lighting, acoustic environments etc for experiential spaces, creative domains and analytics for surveillance spaces.

"We do want to experiment those technologies," Raymond continues. "But we are watchful as to understand the way they are ramifying and how we can implement those newer things in our projects."

While that being the scenario on the ground, there is a perceptible energy being put in thrust by the State to promote the development and adoption of AI technologies. The Ministry of Electronics and Information Technology (MeitY) has launched an ambitious initiative called *IndiaAI* to enhance the nation's AI capabilities by fostering innovation, support start-ups and build a strong AI infrastructure.

The *IndiaAI* plans to position the country in the global league of AI by leveraging public-private partnerships and promoting ethical AI development. It has actually allocated a massive amount of over ₹ 10,000 crore (approximately $1.24 billion) to begin with the programme.

Understandably, conceived as part of the Prime Minister's dream ideation of Make-in-India programme, the initiative aims at:

• Establishing centres of excellence for AI innovation.

• Creating and maintaining comprehensive datasets to fuel AI research.

• Encourage the development of AI applications across various sectors.

• Focus on developing AI skills and education.

• Provide financial support to AI start-ups.

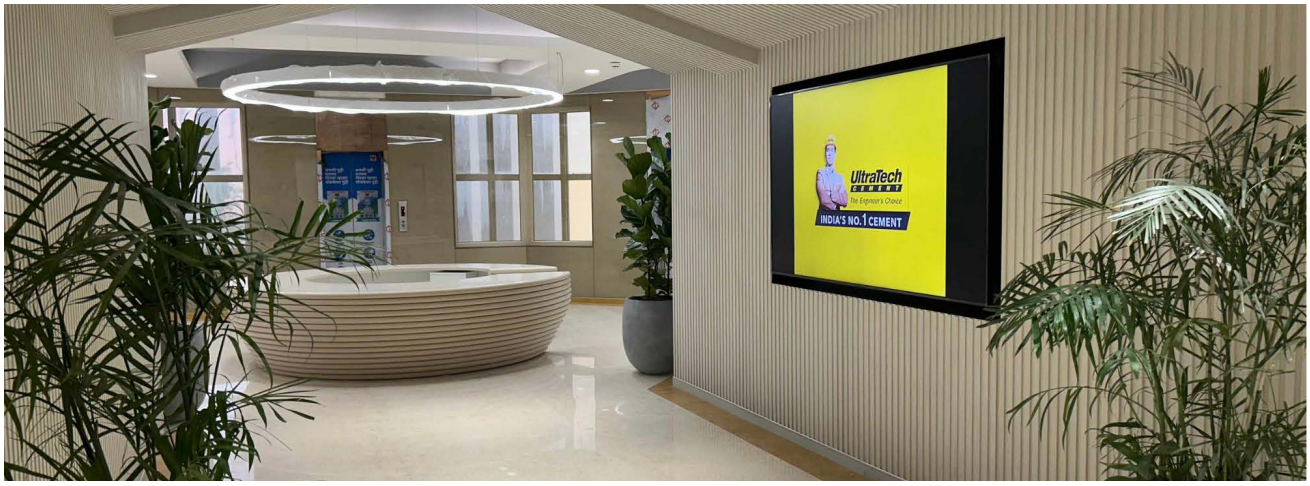
Assuming the continuation of governance from last regime will bring the intended good to realize the dream and vision of AI, in a way paving the way for wider adoption of the technology format, and experiencing it by the wider spectrum of AV.

Abdul Waheed, Managing Director, EYTE Technologies shares his thoughts about how AI is Rapidly Spreading to Integrate with AV (Page 8).


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AI Rapidly Spreading to Integrate with AV

by Abdul Waheed, Managing Director, EYTE Technologies



The UTCL office features integrated NFS software with Crestron room scheduling devices.



Artificial Intelligence (AI) is becoming an integral part of every aspect of our lives, from our homes to our workplaces. Its ability to revolutionize various industries is undeniable, making life easier and enhancing efficiency. As we continue to integrate AI into our designs for offices, meeting rooms, and training spaces, it's clear that AI is transforming how we work and interact.

AI is significantly improving the productivity of meetings. Manufacturers are embedding AI features directly into AV equipment. For instance, room sensors can detect the presence of individuals, automatically configuring AV setups to suit their needs. Facial recognition technology can identify users and adjust the room settings according to their preferences. Additionally, data analytics from these interactions are sent to central servers for continuous improvement, enabling centralized monitoring and fine-tuning of equipment for future meetings.

Modern AV systems boast impressive AI-driven features. Cameras now offer auto-framing, camera tracking, and ambient adjustments, enhancing the overall visual experience. Digital Signal Processors (DSPs) come with built-in capabilities to automatically adjust audio levels according to room acoustics. Dynamic microphones, guided by AI, can modify gain and echo levels in real-time based on the speaker's location, ensuring optimal audio quality throughout the room.

Few Design Cases:

• In a recent project with UTCL, we integrated NFS software with Crestron room scheduling devices. This setup captures room analytics, providing clients with valuable data on room utilization. Such insights are crucial for making informed decisions about future office designs, including the number of meeting rooms required, their sizes, and the appropriate AV equipment based on whether video conferencing (VC) or non-VC activities are predominant.
A unique client request involved incorporating facial recognition technology to open doors. Interestingly, the doors were designed to open only when the camera detected a smiling face, ensuring that all employees enter the office with a positive attitude.

• In a project for Fermenich, we installed sensors under seating tables that detect occupancy and adjust environmental settings accordingly. This smart setup not only aids in data analytics but also enhances energy efficiency by automatically regulating lighting and ambiance based on the number of people present.

• Collaborating with an architect in Mumbai, we designed an office that utilizes voice-activated assistants, powered by AI, for controlling AV devices through natural language commands. The DSP automatically optimizes room acoustics, and AI-enabled cameras adjust zoom and audio tracking based on the number of participants, significantly improving the audio-visual experience.
The future of AI in AV technologies is full of exciting possibilities. Emotion recognition algorithms could enable AV systems to detect and respond to users' emotional states, creating more immersive and emotionally engaging experiences. Real-time translation features can break down language barriers, fostering seamless communication in multi-language environments. AI-powered, context-aware content delivery will personalize recommendations based on a user's location, time, and social setting. These advancements are poised to reshape AV experiences, making them more immersive, inclusive, and tailored to individual preferences.



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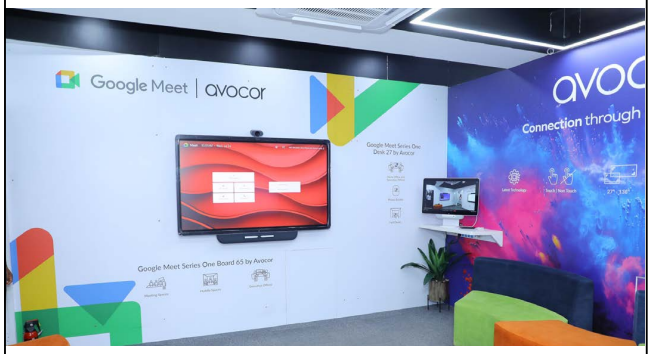
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NEWS BYTES

Avocor Unveils First Experience Centre in India



Avocor, a leading innovator in collaborative communication solutions, has opened its first Experience Centre in India, in partnership with regional distributor Mindstec. Located in Bangalore, this state-of-the-art facility provides an exceptional space for dealers and clients to explore and interact with Avocor's range of interactive displays, designed to enhance collaboration in both professional and educational settings.

Erthpot and Cineworth Elevate Government Conferencing in Shillong



The Meghalaya Basin Development Authority's Integrated Planning and Advisory Cell in Shillong has recently undergone a technological upgrade led by Cineworth Sales & Service, featuring advanced products from Indian brand Erthpot. This upgrade focused on enhancing communication within the government, addressing the need for a reliable conferencing system with specific features such as Chairman and Delegate units, Audio IO on USB, and the "Look-at-Me" feature for interactive meetings.

Key components installed include the Erthpot NCS-C Chairman Mic, NC-5D Delegate Mic, NCS-110CU controller, and Keyer 44 for digital signal processing, along with additional third-party elements like amplifiers, speakers, a video wall, and a PTZ camera. The upgrade has significantly improved communication clarity and reliability during meetings, seamlessly integrating with software-based video conferencing platforms. The enhanced system is set to positively impact the efficiency and productivity of the Meghalaya Basin Development Authority's operations.

PPDS Begins Manufacturing Professional Displays in India



PPDS, the exclusive global provider of Philips digital signage, interactive displays, videowalls, direct view LED, and professional TVs, announced the expansion of its global manufacturing operations into India, bringing exciting new opportunities for partners and customers, and employment in the local community. Following the recent opening of a brand new, state-of-the-art PPDS Studio in New Delhi's National Capital Region, Gurugram – showcasing the company's full suite of solutions and providing unprecedented access to its local teams – PPDS has partnered with Mumbai-based Mirc Electronics to manufacture a selected range of the company's most advanced and best-selling Philips digital signage and interactive displays.

Unilumin Opens State-of-the-art Experience Centre at Noida



Leading LED displays manufacturer Unilumin recently opened its first state-of-the-art Experience Centre in India, located at Noida. The centre represents a significant milestone in Unilumin's expansion strategy, emphasizing its commitment to the Indian market, with plans to establish additional centres across the country. The Experience Centre offers an immersive visual experience, showcasing the latest LED COB and MIP technologies and products. Among the highlights were Micro LEDs, Transparent LEDs, and All-in-One displays, demonstrating applications in various settings such as control rooms, meeting rooms, XR studios, home cinemas, retail environments, education, and digital out-of-home (DOOH) advertising.

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The House of AV: Emergence of a New AV Ensemble

An ambitiously grand initiative in Hyderabad from the house of Atluri Holdings to redefine the AV business landscape in India



The House of AV will be occupying six floors at the Atluri Ascend Building in Hyderabad.

YES. It's new dynamic, and a new ensemble altogether in Indian AV. Not just the way the industry does its business, but the whole ecosystem of the domain. Gaining the knowledge about AV; exploring the diversity and expanse of AV product range; experiencing them like on-site-functional mode; executing the workflow mechanism of AV business; and engaging in business via an exhaustive e-commerce platform. More- even engaging the AV content production.

All that under one roof- from one 'house.' The House of AV- a veritably named enterprise from the house of Atluri Holdings, an established name in Indian AV, from Hyderabad.

SI Asia got the opportunity to interact with Sreecharan Atluri, the young and energetic Managing Director of The House of AV, to know what inspired him for the ambitiously mega initiative.

Tell us about The House of AV, its Genesis, Vision, and Mission. What all does it do?

Genesis: The House of AV was born out of a desire to create a place where technology and experience intersect in meaningful ways. We noticed a gap in the AV industry—a need for a platform that not only showcases cutting-edge technology but also allows people to engage with it firsthand. This led us to establish The House of AV, a space where leading OEMs, AV professionals, and enthusiasts can come together to explore, learn, and innovate.

Vision: Our vision is to become the go-to destination for audio-visual enthusiasts in Hyderabad. We aim to create an immersive and state-of-the-art experience that blends technology with ambiance. We envision The House of AV as a hub where innovation, education, and collaboration converge, setting new benchmarks in the AV industry.

Mission: Our mission is to amplify the presence of leading AV brands and elevate the overall experience by providing a dedicated platform for showcasing premium solutions. We focus on delivering advanced technology and valuable industry insights to foster connections and enhance customer engagement. Ultimately, we aim to empower our customers with a seamless, immersive Pro AV experience, where informed decisions lead to innovative solutions and successful outcomes.

What We Do: The House of AV is an all-encompassing ecosystem designed to cater to every aspect of the AV industry. Our key offerings include:



Sreecharan Atluri
Managing Director of The House of AV

• **Pro AV Zone:** A showcase space where the latest AV solutions are displayed, allowing customers to interact with cutting-edge technology.



• **Pro AV Immerse:** Demo rooms that provide real-world, immersive demonstrations of AV systems in action.



• **Pro AV Hub:** A co-working space fostering collaboration among AV professionals, sparking innovation within the industry.



• **Pro AV Academy:** An AVIXA-affiliated training centre offering certifications and workshops to keep professionals ahead in a fast-evolving industry.



• **Pro AV Buzz:** A content and events hub for brands to amplify their message and connect with their audience.



• **Pro AV Kart:** An e-commerce platform where customers can purchase AV products with access to expert advice and support.



It appears very ambitious. What made you ideate the initiative so ambitiously? What factors do you think demanded such an initiative?

The ambition behind The House of AV comes from a clear recognition of what the Pro AV market in India needs right now. This industry is at a pivotal moment—brimming with potential, yet riddled with challenges. We saw a significant lack of organization, making it difficult for customers to navigate the plethora of options available. The confusion between consumer-grade and professional-grade AV products often leads to misinformed decisions.

Moreover, there was no single platform where customers, OEMs, and influencers like architects and consultants could meet, learn, and collaborate. This gap called for a bold, comprehensive solution—a place that could serve as a hub for not just transactions, but education and innovation. By thinking big, we're aiming to redefine how people perceive and interact with Pro AV solutions, ensuring the industry evolves in the right direction.

More than addressing a long-demanding opportunity, it's like creating an entirely new dynamic in the Pro AV world. What research did you do before taking such a bold step?

In regions like Andhra Pradesh, Telangana, and especially Hyderabad, the Pro AV industry is often a maze of confusion. Unlike the organized retail electronics sector, Pro AV lacks clear differentiation between consumer-grade and professional-grade

products, which leaves customers overwhelmed and uncertain. They're often unaware of the full spectrum of available solutions, particularly the difference between premium European brands and other options.

This lack of awareness extends to key influencers like architects and consultants, who may not fully grasp the potential of AV technology. Without this knowledge, they miss opportunities to create exceptional AV experiences for their clients.

Our primary objective with The House of AV is to bring identity, structure, and clarity to this fragmented industry. We're committed to educating and empowering these influencers, giving them the tools they need to make informed decisions. By thoroughly vetting every brand and offering immersive product experiences, we aim to help customers navigate the complexities of the Pro AV landscape with confidence.

What strengths do you think you already possess? And what competencies—in terms of collaboration with OEMs & SIs/ Consultants, infrastructure, etc.—are you bringing to the table?

At The House of AV, we bring a unique combination of strengths that position us as a leader in the Pro AV industry:

• **Industry Expertise:** Our deep knowledge and experience in Pro AV allow us to understand the nuanced needs of our customers and partners. This expertise is critical in curating a platform that addresses market gaps and offers comprehensive solutions.

• **Strong OEM Relationships:** We have forged strong partnerships with top-tier OEMs who trust us to showcase their premium solutions. These relationships are built on a foundation of mutual respect and a shared commitment to quality.

• **Customer-Centric Approach:** We prioritize understanding and meeting the specific needs of our customers. By offering an immersive, seamless experience, we ensure they can make informed decisions aligned with their long-term goals.

• **Advanced Infrastructure:** Our state-of-the-art facilities are designed to provide an interactive and dynamic environment for showcasing AV solutions. Every interaction within our platform is intended to be engaging and impactful.

• **Collaboration with SIs and Consultants:** We actively collaborate with system integrators and consultants, providing them with the tools and support needed to guide their clients effectively. This collaboration is key to delivering successful AV solutions.

• **Commitment to Education:** We are dedicated to raising awareness and educating both customers and industry influencers. Through training sessions, workshops, and hands-on experiences, we empower our stakeholders to make informed decisions.

These strengths enable The House of AV to not only bring awareness to the market but also to empower customers with the knowledge and confidence needed to navigate the Pro AV landscape.

Given the nature of the Pro AV business in India, which many say is unique and different from global presets, what are the potential pitfalls?

India's Pro AV market is indeed unique, presenting a distinct set of challenges. One major pitfall is the fragmented market structure. Unlike more mature markets, there's often little differentiation between consumer-grade and professional-grade solutions, leaving customers confused about what they're actually getting.

The lack of standardization is another issue. Without consistent processes or certifications, the quality of products and services can vary significantly, which is challenging when trying to ensure a uniform customer experience.
There's also a gap in awareness and education among both customers and key influencers like architects and consultants. Many are unaware of the full potential that Pro AV technology offers, leading to underutilized or misaligned solutions.

Price sensitivity is another challenge. The market tends to prioritize cost over quality, which can lead to choices that don't offer the same long-term value as premium brands. Additionally, logistical and service challenges, such as inconsistent supply chains, can impact product delivery and customer satisfaction.

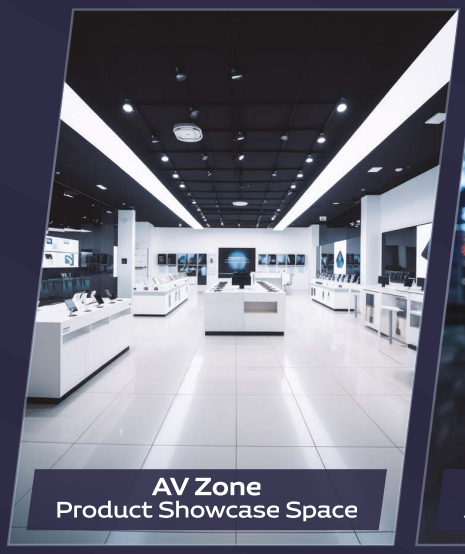
Despite these challenges, The House of AV is committed to addressing these pitfalls. We focus on bringing structure and standardization to the market, providing thorough education, and partnering with reliable OEMs. Our goal is to ensure that customers have access to the best solutions, helping them make informed decisions and achieve long-term success with their Pro AV investments.

Our primary objective with The House of AV is to bring identity, structure, and clarity to this fragmented industry. We're committed to educating and empowering these influencers, giving them the tools they need to make informed decisions.

the house of AV

All things sight and sound

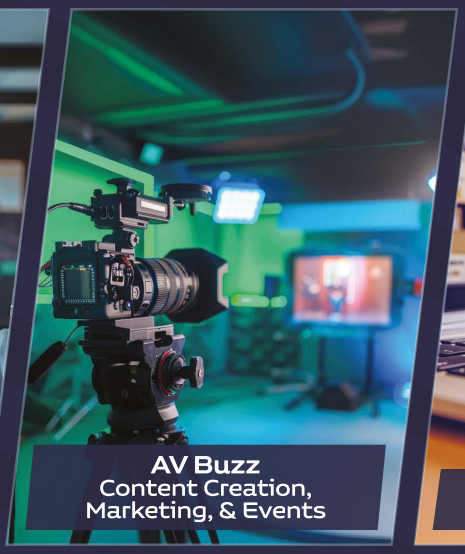
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Q&A with Derek Graham, CEO, ClearOne



How have ClearOne's products and technological focus evolved over the past 40 years?

Throughout ClearOne's history, we have been at the forefront of designing and providing premium products that incorporate cutting-edge capabilities, including digital signal processing. In the 1980s, one of our popular products was an analog telephone interface for radio stations that allowed listeners to call into radio talk shows. Later versions of that product implemented digital technology including a Line Echo Canceller That was the company's first product to use digital signal processing. Upgraded versions of the product added an Acoustic Echo Canceller and that product was a key element that enabled live talk shows for both radio and TV. At that time, the architectural approach for conferencing in meeting rooms with multiple microphones was to mix all of the microphones into one signal and apply a single channel of echo cancellation to that mixed channel. Due to the increase of power of DSP chips and reduction in cost ClearOne engineers were able to assign an Acoustic Echo Canceller to each microphone in a multi-mic conference. We called this technology "Distributed Echo Cancellation" and implemented it in the groundbreaking "Audio Perfect" or AP DSP microphone mixer product line. Innovations continued to evolve with the incorporation of adaptive noise cancellation, further enhancing our offerings.

A decade ago, we revolutionized the industry by introducing beamforming microphone arrays for the professional installed market, integrating ClearOne's expertise in digital signal processing and algorithms into microphones. We have also broadened our focus to extend our total addressable market from our traditional stronghold of installed audio conferencing and microphones to adjacent complementary markets including video collaboration and AV networking. Presently, ClearOne offers a broad suite of products, including installed professional audio products, USB speakerphones, ceiling microphones, wireless microphones, camera products, and network media streaming products. Our lineup also features Bring Your Own Device (BYOD) products, simplifying the process for meeting participants to connect to professionally installed audio and video devices.

The common theme throughout ClearOne's history has been innovation. We are constantly exploring new ideas and technologies to improve our products and services.

In the current landscape, where hybrid meetings have become commonplace, how do ClearOne's products cater to the evolving demands of customers?

The cornerstone of ClearOne's approach lies in prioritizing intelligible audio as the foundation of any conferencing environment. Building on that foundation, we have also incorporated technologies that improve the subjective quality and naturalness of audio. Across our diverse range of conferencing products – from the versatile personal conferencing work-from-home kit to the most advanced beamforming microphone arrays – we integrate technologies that ensure the capture and transmission of the most intelligible and high-quality audio to participants at remote locations. These include advanced echo cancellation, adaptive noise cancellation, automatic mixing, frequency invariant beamforming, and adaptive steering algorithms.

ClearOne delivers a Meeting Equity experience that encompasses both audio and video dimensions. Our automated camera tracking guarantees that every participant, regardless of their physical location, is equally visible. Simultaneously, on the audio front, we ensure that both local and remote meeting participants are heard with equal clarity. Our CONVERGE Pro 2 products feature native camera tracking, seamlessly synchronizing with our beamforming microphone arrays and cameras to track in-room talkers as their positions change. This technology allows remote participants to perceive the room environment just as effectively as if they were physically present.

For larger, flexible meeting spaces, our BMA 360 and 360D beamforming microphone arrays have built-in amplifiers and support voice lift, enhancing the audibility of a local talker for individuals situated at a considerable distance from that talker. Similar capabilities are extended through ClearOne wireless microphones when paired with a DSP mixer.



DIALOG-UVHF-Group.



BMA 360D.Ceiling Microphone.



CHAT 150 BT.



CONVERGE PRO 2 48VTD.



CONVERGE PRO 2 128.



UNITE 260 Pro Camera.

What are ClearOne's current main business goals and how do you plan to achieve them?

One of our main goals is to improve our market share in the professional audio conferencing market. Another goal is to continue to expand our market from our traditional stronghold of installed audio conferencing and microphones to adjacent complementary markets like cameras.

Another crucial objective is to reinforce ClearOne's standing as a preferred manufacturer by delivering a comprehensive portfolio of solutions for the audio-visual communication industry.

Furthermore, we are dedicated to advancing the interoperability of our products with those of third-party vendors. This strategic effort is aimed at broadening the compatibility of our products, ensuring they seamlessly integrate with a wider array of audiovisual solutions available in the market. ClearOne will persist in its pursuit of innovation, delivering increasingly interoperable solutions and providing a comprehensive value chain for audiovisual communication and collaboration technologies.

What compelling reasons should lead customers and system integrators to opt for ClearOne solutions?

We always endeavor to put our customers at the center of everything we do. We are dedicated to understanding their needs and providing solutions that exceed their expectations. We believe that customer satisfaction is the key to our success. We try to work closely with our customers and partners to achieve shared goals. From the top down, we strive to foster a culture of respect, openness, and mutual support.

For system integrators, our goal is to allow them to install more rooms in less time, so that they have more profit by selling ClearOne equipment. Due to ClearOne's system level integration, our products are easier to specify, buy, and configure. Compared to a mix-and-match approach that uses products from multiple vendors to meet a customer's requirements, specifying ClearOne results in a reduced learning curve and simpler technical support. If there is a problem, our integration partners have one number to call so that we can help them get up and running fast.

If there is an end-user requirement for a non-ClearOne product in an installation, we offer products with industry standard interfaces like Audinate Dante and AES. Our products offer significant performance-enhancing features like frequency invariant beamforming and deep sidelobe beamforming that we believe result in superior audio quality.

www.clearone.com

Kramer AV Pioneering the Future of AV with Innovation and Strategic Acquisitions



Kirti Shetti, Country Manager, South Asia, Kramer AV

Making Waves

Kramer Electronics is making waves in the audio-visual (AV) industry, propelled by significant product developments and strategic acquisitions. With a clear vision to redefine the AV landscape, Kramer is pushing the boundaries of what's possible, integrating cutting-edge technology with a commitment to sustainability and customer-centric solutions.

At the heart of Kramer's innovation is **Panta Rhei**, a revolutionary audio-visual ecosystem platform designed to deliver seamless, high-quality AV experiences. This platform represents a bold step forward in Kramer's mission to bridge the gap between physical and digital worlds, creating new ways for people to connect with AV technology. By integrating advanced features and user-friendly interfaces, Panta Rhei is set to transform how businesses and individuals interact with AV systems.

Kramer's strategic partnership with AudioCodes has resulted in a powerful fusion of AV solutions and **Microsoft Teams Room (MTR)** technologies. This collaboration brings together an array of advanced components—video bars, computing units, DSPs, switching systems, efficient cable management, and AI-powered recording and analytics—to create a comprehensive solution for modern team meetings. With these MTR solutions, Kramer is enabling businesses to enhance collaboration and productivity, setting a new standard for AV-enabled communication.

Kramer's commitment to innovation is further demonstrated by the introduction of the **KDS-17** and **KDS-100**, two state-of-the-art products designed to meet the diverse needs of **AVoIP** (Audio-Video over Internet Protocol) streaming. These solutions offer unparalleled scalability, performance, and flexibility, allowing customers to tailor their AV setups to specific bandwidth, latency, and quality requirements. With enterprise-grade security and intuitive management features, Kramer's AVoIP solutions ensure a superior user experience across various applications.

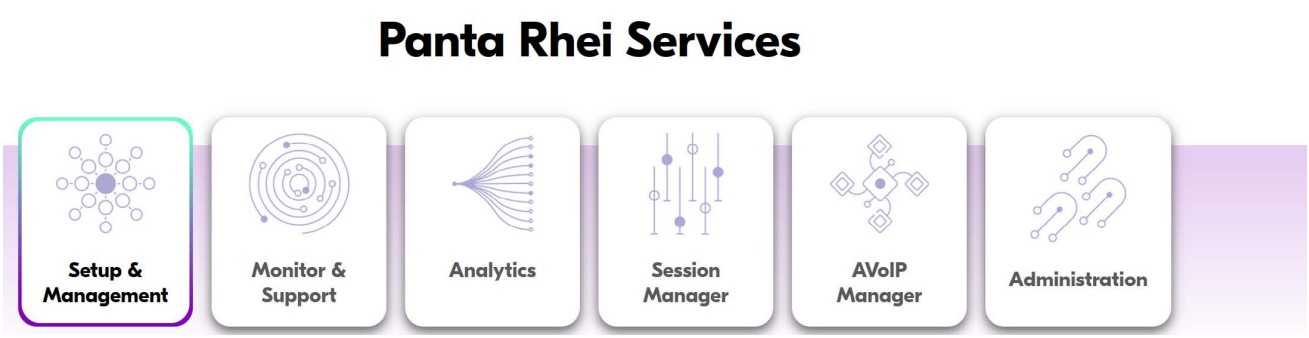
The **AVSM Series 3** is a testament to Kramer's dedication to delivering top-tier AV experiences. Featuring uncompressed 4K60 4:4:4 video, ultra-low latency, and advanced connectivity options like rapid switching and USB-C ports, Series 3 is built to handle the most demanding collaboration environments. This series ensures that users experience flawless AV signal processing, making it ideal for high-stakes scenarios where quality and reliability are paramount.

Strategic Acquisitions Strengthen Market Leadership

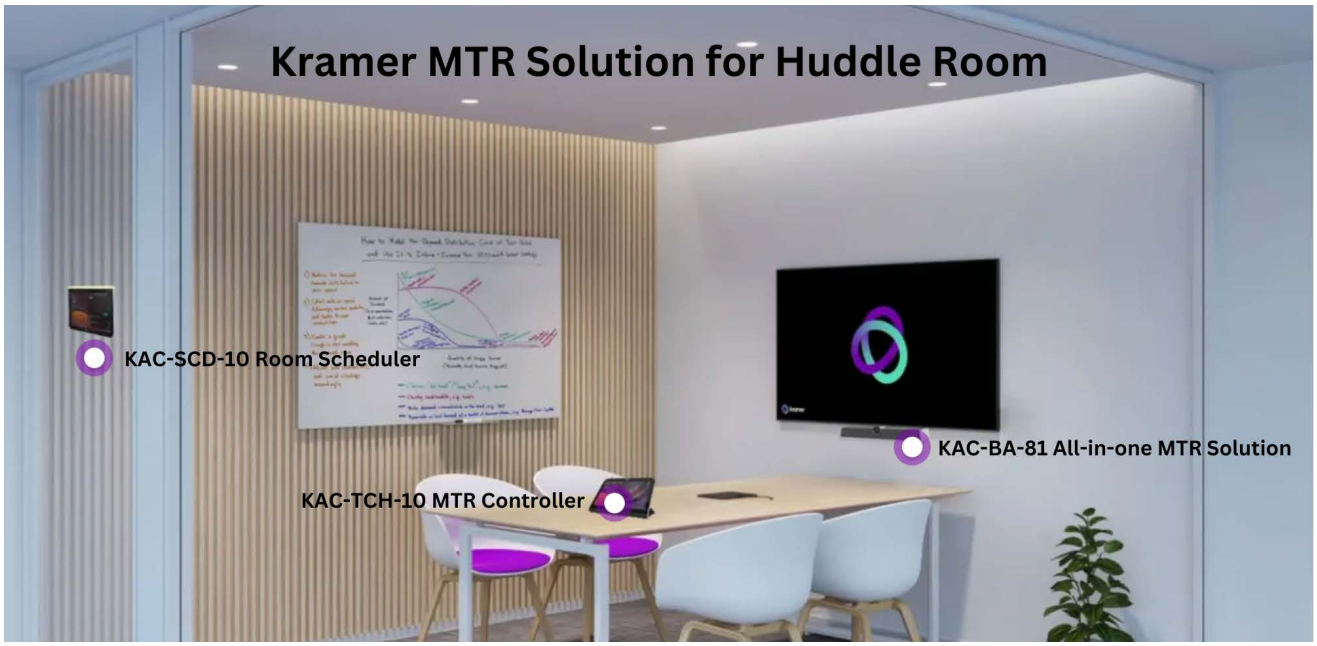
Kramer's recent acquisitions of Ashton Bentley, a UK-based provider of collaboration spaces, and ZeeVee Inc., a pioneer in AVoIP technology, have significantly bolstered the company's capabilities. These strategic moves enhance Kramer's offerings in Unified Communication and Collaboration (UCC), positioning the company at the forefront of the rapidly converging IT and AV sectors. By integrating these innovative technologies, Kramer is poised to lead the market with solutions that meet the evolving needs of businesses worldwide.

Overcoming Challenges in the Indian AV Market

Despite the dynamic and sometimes challenging nature of the Indian AV market, Kramer has successfully navigated hurdles such as high operational costs, complex regulatory requirements, and the need to maintain stringent quality standards. By leveraging its leadership position and aligning with the Indian government's focus on infrastructure development, Kramer



Panta Rhei is a revolutionary audio-visual ecosystem platform designed to deliver seamless, high-quality AV experiences.



is well-positioned to capitalize on emerging opportunities. The company remains committed to investing in the region, working closely with partners, consultants, and customers to deliver comprehensive AV solutions that meet local needs.

Sustained Business Growth in India

Kramer's growth trajectory in India is a testament to the increasing demand for its audio-visual collaboration solutions across the Enterprise, Government, and Education sectors. As brand recognition continues to rise, so does the appetite for Kramer's innovative products, such as Panta Rhei, MTR solutions, and AVoIP technologies. These offerings are driving the IT-AV convergence, enabling AV systems to be managed like IT networks, leveraging the power of cloud services, software-based solutions, and robust network infrastructures.

A Commitment to Sustainability and Green Technologies

As a global leader, Kramer places a high priority on sustainability and green technologies. The company is committed to reducing industrial waste and pollution through innovative solutions like Power over Ethernet (PoE), which minimizes the need for additional power supplies across its product range. Additionally, Kramer ensures that its resources are sourced responsibly, adhering to strict safety regulations and avoiding materials from conflict zones.

The Future of AV: Scalable, Adaptable, and Unified

Kramer's vision for the future of AV is one where scalable and adaptable solutions like AVoIP seamlessly integrate with IT networks, driving innovation and efficiency. The convergence of AV and IT is unlocking new possibilities, resulting in more comprehensive and diverse technological solutions for modern business needs. With unified collaboration solutions, Kramer is facilitating smooth communication and productivity among teams, no matter where they are located. As hybrid work environments continue to evolve, Kramer's innovative approaches are set to shape the future of work, merging the physical and virtual to create customizable workspaces that cater to a wide range of applications.

www.kramerav.com



Delta's Adaptation to Evolving Market Landscape Keeps it Ahead of the Game



Hemant Agarwal, Business Head, Display Solutions Business Unit, Delta Electronics India Pvt. Ltd.

Keeping an Eye on Cloud and AI

As the saying goes, 'change is the only constant', and like any other organization, we too are undergoing transformation in this dynamic business environment. Delta, as an organisation, has seen significant growth and diversification during the last one year of operations. With 'cloud' and 'AI' becoming the industry drivers, majority of Delta's efforts are directed towards developing solutions to meet the growing needs of these two emerging fields. To adapt to the evolving market landscape, we are transforming our organization by integrating new technologies and launching innovative products in the display solutions sector.

During the 2023 to present period, we introduced the latest Interactive Flat Panel Displays, delivering best in class experiences for both educational and corporate markets. Delta's Novotouch interactive flat panel displays have been exceptionally well received, as customers increasingly appreciate the difference between the me-too products and the Novotouch from Delta. Featuring an exceptionally smooth whiteboard experience and virtually lossless wireless presentations—even for video—the Novoconnect stands out prominently. Combined with numerous groundbreaking innovations, Novotouch leads the market.



The A101 LED display.

Additionally, Novotouch integrates Delta's own Device Management System, allowing users to manage multiple devices over a network with tailored functionalities for diverse user profiles. Within the same time period we also launched our Digital Signage solutions with built-in GPIO (General Purpose Input and Output) helping integrators to build interactive solutions around the product, at a price which is affordable by most quality conscious organisations looking for a robust product, well differentiated from the low-cost android boxes available in the market. Sold under the NovoDS banner, these solutions also offer Cloud Based Content delivery, management and control.

Novotouch and NovoDS are not the only new announcements from Delta within the last one year. Delta has also covered ground in developing and introducing industry leading projectors, which are able to deliver record brightness levels from a single chip DLP platform, coupled with colours that make it difficult to differentiate between a single chip and a three chip DLP thus breaking new ground.

Of course, we will continue to build on our successes and deliver a range of new, technologically advanced products in the quest to surpass expectations and reach new heights.

Weathering the Challenges

Despite our successes, Delta's path to success has not always been a smooth ride. As a large organisation with a turnover nearing $14 billion, we have our fair share of challenges and difficulties. Managing a vast organisation actively engaged in many new and growing technologies, also means huge investments in unchartered territories. Additionally, global unrest, regional conflicts, sanctions impacting business, and slowing GDP in major economies have all posed substantial challenges for Delta. But being a large organisation, we believe, Delta is in a better position to weather these challenges as compared to other organisations which are not well diversified and are only focussed on display products. Being diversified



An installation featuring Delta's solutions.



The Insight 8K Laser projector.

provides Delta the resilience needed to navigate the troughs and ride the peaks.

Resilence Drives Growth

The first half of 2024 has been particularly challenging due to the typical uncertainties of an election year. Nonetheless, we have remained resilient, with the Education and Corporate sectors driving strong revenue growth and delivering robust results despite the upheaval.

Delta's extensive presence across almost all states means that no single state stands out as a primary driver of our growth. Excluding a few smaller regions, we have seen strong growth throughout the country. This success is largely attributed to our robust regional presence and expansive channel network, which facilitates our reach into Tier-1, Tier-2, and Tier-3 cities. Our channel network has also expanded significantly, with more partners recognizing the benefits of collaborating closely with Delta.

While we have undertaken many large projects, confidentiality agreements with our customers limit our ability to disclose specific details. However, some of the largest projects are publicly known and can be referenced if needed.

www.deltaww.com

With 'cloud' and 'AI' becoming the industry drivers, majority of Delta's efforts are directed towards developing solutions to meet the growing needs of these two emerging fields. To adapt to the evolving market landscape, we are transforming our organization by integrating new technologies and launching innovative products in the display solutions sector.

Epson India Eyes Continued Growth as New Verticals Drive High-Brightness Projector Market



A. K. Harish, Senior General Manager – Visual Products, Epson India

Sustainability an Important Component of Epson's Business

Since its inception in 2000, Epson India Pvt. Ltd. has been at the forefront of delivering innovative solutions to homes, businesses, and enterprises across the country. Known for its commitment to quality and value, Epson India has built an enviable reputation as a leader in technology that not only meets market demands but also surpasses expectations. With a focus on energy-saving solutions, space-efficient innovations, and ultra-high precision, Epson is on a mission to protect the environment and enrich communities—aligning with the company's ambitious goal of becoming carbon-negative and free of underground resources[1] by 2050.

As part of its sustainable vision, Epson has embraced all 17 Sustainable Development Goals (SDGs) set by the United Nations. This commitment is reflected in the company's product lineup, including its high-brightness projector range, which is increasingly finding applications in emerging verticals such as mapping, museums, experience centers, and places of worship. Epson's laser light source projectors, offering brightness levels from 7K to 30K lumens, provide seamless operation for up to 20,000 hours—meeting the needs of these specialized sectors.

Unveiling the World's Smallest 4K 20,000-Lumen Projector at InfoComm India

One of Epson's most exciting developments was the launch of the world's smallest 4K 20,000-lumen laser projector, which will be shown at InfoComm India 2024. This breakthrough product, along with its siblings in the 13,000- and 16,000-lumen range, is set to redefine the standards for immersive display solutions. Epson has witnessed a surge in demand for high-brightness projectors, particularly in the immersive display segment, which is rapidly gaining traction.

Additionally, the adoption of ultra-short-throw (UST) projectors with a 21:9 aspect ratio in corporate conference rooms is transforming hybrid meeting environments, making Epson a preferred choice for video conferencing applications.

Navigating the Challenges: Timelines and Customer Expectations

While the growth story is impressive, Epson acknowledges the challenges that lie ahead, particularly in managing the timelines of AV projects. The lead time, currently ranging from six to nine months, remains a significant hurdle. However, Epson is committed to delivering solutions that balance cost-effectiveness with high quality, ensuring that customers receive the best return on investment.

A Year of Exceptional Growth

FY23 was a milestone year for Epson's projector business, with record sales of 125,000 units and revenue of INR 415 crore. The company's success in securing large education tenders and key AV projects for its high-brightness range contributed to a remarkable 141% growth in revenue compared to FY22. Looking ahead, Epson anticipates a minimum annual growth of 20% from FY23 to FY28, driven by the continuous introduction of innovative products that cater to the evolving needs of the market.

The Indian AV industry itself is poised for robust growth, with expectations of a 12% to 15% CAGR from FY24 to FY30. This growth presents a tremendous opportunity for Epson to further solidify its leadership in the projection display market.

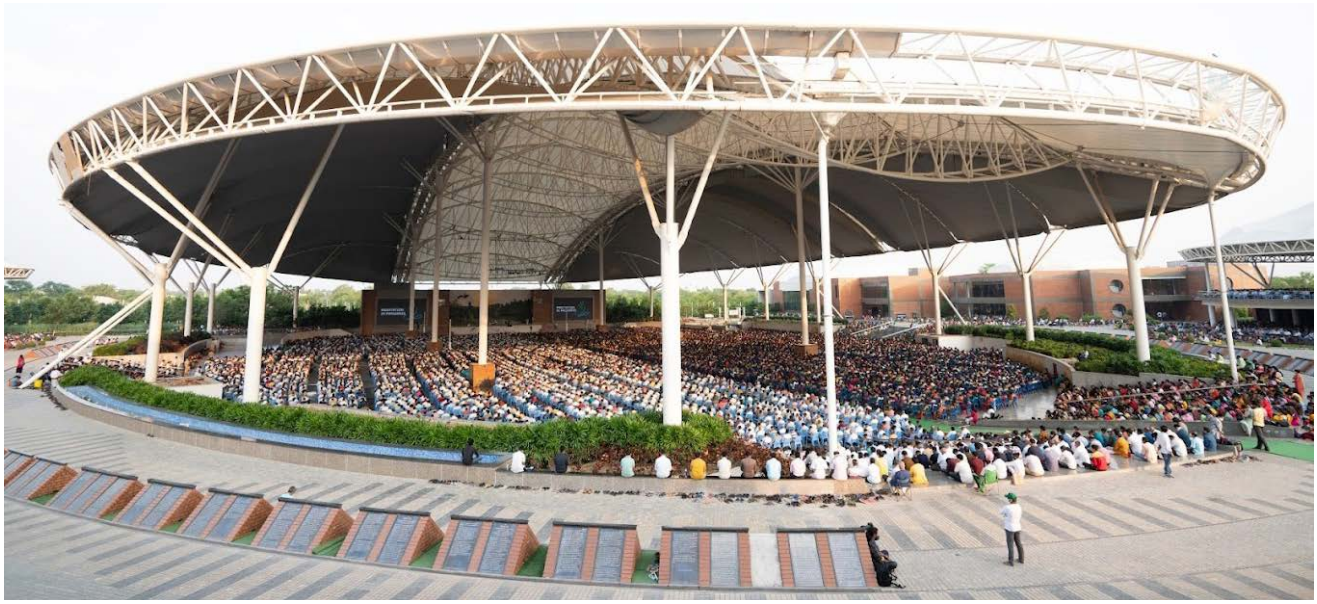
Spotlight on an Outstanding Project

One of Epson's standout projects in recent times is the Khana Shanthi Vanam project in Hyderabad. This ambitious undertaking involved the installation of 16 Epson 16,000-lumen WUXGA laser projectors for projection mapping within the meditation hall's ceiling and key areas.

In the presence of 300 top global spiritual leaders the President of India Draupadi



The world's smallest 4K 20,000-lumen laser projector.





The Khana Shanti Vanam meditation hall (above pix). The Global Spiritual Mahotsav 2024 event featuring cinematic projection mapping using Epson's 16,000 lumens projectors (belox pix). Photos courtesy of Khana Shanti Vanam.

Murmu, watched a show the likes of which had never been seen before. Mani Shankar's cinematic projection mapping at its awe inspiring best. The event- the Global Spiritual Mahotsav 2024 at Kanha Shanti Vanam, under the aegis of Daaji the Spiritual Head of the Heartfulness movement.

In this event Mani designed 3 giant flat screens totalling 150 feet in length and surrounded them with uniquely shaped mapping surfaces. Its overall length was more than 250 feet wide and 70 feet tall. It gave an impression of a gigantic bird in flight with wings outspread. On this one-of- a- kind cinematic theater Mani and his brilliant team told the story of Indian Spiritualism using imagery that took your breath away.

Using her vast experience in visual arts, Anjali Joshi, as Director of AI design created a new metaphor of visual expression that was stunning to behold. She created landscapes, palaces, glacial lakes and scenery that would have been any visualisers dream come true.

Mani used the Epson projectors to get the kind of resolution he needed. The images were seamlessly stitched together using edge blending- a technique of projection mapping.

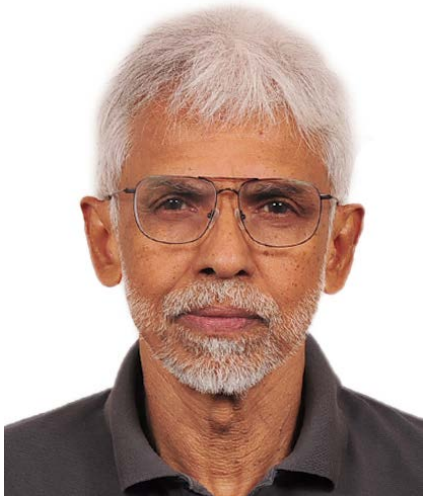
Careful attention was given to colour harmony. The cinematic impact was always supported by heart warming imagery that caused waves of exhilaration in the audience.

"Ultimately it was the colour harmony that took the breath away" says Mani. "That was the jewel in the crown."

The array of Epson projectors performed to their fullest potential. The image quality and colour fidelity delivered the standards required. The Epson team worked in tandem with the projection team and Pixel Art from Chennai and the results were well appreciated.

www.epson.co.in

Discernment as a Catalyst: Organisations and Audiences Will Boost Professional Audio Industry Growth



Leslie Lean, CEO, Ansata

Ansata Makes Significant Progress in the Installation Segment

I am happy to announce that we have made significant progress in expanding our install sound base over the past years. Our team has successfully executed a series of remarkable projects, solidifying our presence across key sectors, including performance venues, corporates, as well as houses of worship, to name a few.

Furthermore, One of our most distinguished achievements in the Performance Venue segment is our work at the Nita Mukesh Ambani Cultural Centre (NMACC). This project stands as a testament to our expertise, where we seamlessly integrated cutting-edge Dolby Atmos sound technology with sophisticated theatre and concert sound systems. Remarkably, these systems can be effortlessly switched between profiles with the simple press of a button, ensuring versatility and precision for every event.

In the Corporate segment, our installation at Deloitte has garnered widespread acclaim. We implemented the state-of-the-art d&b Soundscape immersive audio system, tailored to meet their diverse needs, from speech and presentations to cultural programs.

Another project that deserves special mention is our installation at Kanha Shanti Vanam, home to the world's largest meditation hall with a seating capacity ranging from 60,000 to 100,000 people. This project, part of our Houses of Worship segment, showcases our ability to handle large-scale, spiritually significant spaces with precision and care.

Lastly, in the realm of outdoor installations, we are particularly proud of our work at Futala Lake, Nagpur. Here, we designed and implemented audio for a captivating fountain show with projection mapping, creating an immersive experience that has become a highlight for the region.

The trend we are observing is a growing awareness among people of what quality audio truly sounds like. It is an honour to partner with top-tier brands like d&b audiotechnik, AVID, DPA, and Amphion among others, in the Indian subcontinent. These exceptional brands consistently empower us to deliver the highest standards of sound quality. They have been unwavering in their reliability, playing a crucial role in our ongoing success. As more clients recognize the importance of premium audio, we are dedicated to continue setting new standards in the industry.

Ambitious Plans Ahead

We are excited to share our ambitious plan to double our reach, ensuring that even more people experience the power of quality sound. Our goal is to make world-class brands like d&b audiotechnik household names in the Indian subcontinent, expanding their influence and to make an impact across both live sound and install sound verticals.

As we continue to grow, we are committed to bringing even more top-tier products to the Indian market, elevating the standards of quality audio. Our focus remains on delivering pristine sound that captivates audiences and sets new benchmarks for excellence.

With these efforts, we aim to broaden the horizons of what is possible in professional audio, making sure that the finest technologies and innovations are accessible to more people than ever before. We look forward to the journey ahead. Together with our trusted partners, we are confident that our passion for quality and our dedication to service will drive us to new heights.

Meeting Challenges with Strategic Training and Quality Control Measure

As we continue to grow and evolve in the professional audio industry, one of the primary challenges is keeping our patrons well updated with the rapid advancements in technology while ensuring that our team is fully equipped to handle these innovations.

To address this, we invest heavily in continuous training and development programs for our customers, by providing regular workshops, certifications, and hands-on experience with the latest equipment and software, we ensure that not only our team but our customers are also familiar with the latest technologies and become proficient in utilising them to deliver the highest quality audio solutions.

We have also established rigorous quality control measures and a strong feedback loop with our clients. By continuously assessing our performance and making improvements where necessary, we ensure that our growth does not compromise the excellence that Ansata is known for.

Capturing Opportunities by Staying Ahead of the Curve

We have experienced quite steady growth over the last year across multiple segments as I mentioned earlier, and it has been a rewarding journey.

Looking ahead, we are particularly excited about the potential for growth in our corporate segment. We have been laying the groundwork for this, and in the coming months, we expect to see substantial development in this area. Corporates are increasingly recognizing the importance of high-quality audio solutions, and we are poised to meet this growing demand. Innovation and technology are at the core of everything we do. We strive to be at the cutting edge, continuously pushing boundaries. If you want to witness this firsthand, I invite you to visit our booth at InfoComm. Our team's commitment to staying ahead of the curve is evident in the advanced solutions we present at such events, reflecting our dedication to delivering the best to our customers.
On the audio front, one of the most exciting developments is the rapid integration of d&b audiotechnik's systems with "Milan", a new standard for audio networking. This technology is set to be a game-changer in the coming years, not just for the Install sound domain but for Live sound as well. Milan offers unprecedented reliability and flexibility, ensuring that our clients receive the highest quality audio experiences. As d&b continues to lead in this area, we are thrilled to bring these advancements to our projects, reinforcing our reputation as a leader in the industry.

Discerning Audiences will Help Drive Superior Sound Systems

Mumbai, as the entertainment capital, is growing rapidly, driving an increasing demand for quality audio. While conventional cities like Bangalore, Kochi, and Chennai continue to thrive, we are also noticing significant potential in neighbouring cities like Pune and Hyderabad. The growing awareness among people about the importance of high-quality sound is playing a major role in shaping their decisions, such as which performance venue or theatre to visit.

This heightened awareness is particularly influencing the live entertainment sector, where the quality of audio can make or break an experience. As audiences become more discerning, the demand for superior sound systems in such places is on the rise. This shift is creating new opportunities for us to deliver excellent audio solutions that enhance the overall experience for both venues and their patrons.

The Professional Audio Industry is Set for Significant Transformation

In the coming years, the professional audio industry is set for significant transformation. On one hand, providers will become increasingly aware about the quality of products they introduce to the market, ensuring that only the finest and most innovative technologies reach consumers. On the other hand, as we discussed, users will grow even more discerning, with a heightened awareness of what constitutes true audio excellence. This dual emphasis on quality—both from providers and consumers—will set the stage for a more demanding and competitive landscape.

As the industry evolves, competition will intensify, not just in terms of the products offered but also in the speed and quality of services provided. Companies will need to respond more rapidly to market demands while maintaining the highest standards of service.

It is an exciting time, full of opportunities for those ready to meet the challenge.

Immense Pride at Completing the "Dashavatar" Showcase

One of the most exciting and technically challenging projects we have recently completed is the "Dashavatar" showcase at the Nita Mukesh Ambani Cultural Centre (NMACC). This immersive audio-visual experience narrates the epic tale of the ten incarnations of Bhagwan Vishnu, as depicted in the puranas, and has been a significant milestone for us at Ansata.

The brief for this project was clear yet ambitious: to create an audio environment that would transport the audience into the heart of the story, making them feel as though they were part of the ancient world. Achieving this level of immersion required not just advanced technology but also a deep understanding of how to integrate sound into a narrative in a way that enhances the emotional and spiritual impact of the story.

Our team chose to deploy d&b audiotechnik's Yi10P point source speakers for their exceptional clarity and power. These speakers are renowned for being one of the most powerful point source speakers in the industry, capable of delivering precise and impactful audio even in the most challenging acoustic environments. To ensure the low-frequency sounds are equally impressive, we integrated 21S and B6 subwoofers, known for their deep, powerful bass response. Additionally, we used 8S and 5S point sources as the surround speakers, placing them to ensure a truly immersive experience.

The sound design was further enhanced with a Dolby mix, which added a layer of depth and realism to the audio. This combination of high-quality equipment and expert sound design resulted in an audio experience that exceeded expectations, fully immersing the audience in the tale of Dashavatar.

The outcome has been nothing short of remarkable. "Dashavatar" has been running for over a month, consistently performing to nearly full houses, with audiences captivated by the stunning audio-visual experience. This project has been added as one among many projects which are a source of great pride for us.

We are particularly proud of this project because it embodies everything we strive for as a company: excellence in sound quality and the ability to create experiences that resonate deeply with audiences. The success of "Dashavatar" at NMACC underscores our commitment to delivering cutting-edge audio solutions that push the boundaries of what is possible in the world of sound.

www.ansata.net



The Grand Theatre at the Nita Mukesh Ambani Cultural Centre (NMACC).

Continued Investment in Technology Drives Christie Forward



Rishubh Nayar, Director of Sales for India, Enterprise, Christie

Significant Developments for Christie in India Since October 2023

Christie has achieved several significant milestones since October 2023. We successfully launched 4K models of our popular HS Series 1DLP laser projectors, including the 14,800-lumen 4K13-HS and the 22,500-lumen 4K22-HS, setting a new industry standard for brightness in 4K UHD 1DLP projection. Additionally, we are excited to debut the new Jazz Series 1DLP laser projectors in India at InfoComm India 2024. These projectors feature Texas Instruments' 0.8" HEP (High-Efficiency Pixel) DMD for enhanced color and contrast, along with a more efficient cooling system design—all without a premium price tag. On the direct-view LED front, we continue to strengthen our presence in the Indian market with our bestselling Core Series III LED video walls, which are well-received in a variety of environments, including government facilities, corporate offices, museums, and educational institutions. This expansion highlights our commitment to delivering cutting-edge visual solutions across diverse applications.

Continued Investment in Technology

We will continue to invest heavily in innovation, particularly in high-brightness projection and direct-view LED video walls. These technologies remain in high demand for various applications across India, including government facilities, corporate environments, experiential installations, museums, and visitor attractions. Our numerous successful projects include the award-winning Smritivan Earthquake Museum in Gujarat, recently named one of the world's seven most beautiful museums by the prestigious Prix Versailles Award for Architecture and Design, presented annually by UNESCO.

Building on this success, we will maintain a strong emphasis on our direct-view LED video walls, particularly the Core Series III and the award-winning MicroTiles LED. The MicroTiles LED, in particular, showcases our advanced LED display technology, with powerful processing and control capabilities that deliver an extraordinary, blur-free viewing experience. These displays provide bright, high-contrast visuals and Rec.709 color, resulting in brilliant, true-to-life detail. By continuously pushing the boundaries of visual technology, we aim to meet the evolving needs of our clients and solidify our position as a leader in the industry.

Making a Stake in the LED Video Wall Space

We are proud to be recognized as the market leader in the DLP space in India for projectors above 6,000 lumens—a leadership position we have maintained for many years. Our commitment to



Smritivan Earthquake Museum in Gujarat, recently named one of the world's seven most beautiful museums by the prestigious Prix Versailles Award for Architecture and Design, presented annually by UNESCO.



The light and sound show at the BAPS Shri Swaminarayan Temple in Gondal.

innovation and advanced technology has been key to sustaining this success. In addition to our achievements in high-brightness projection, we are continuously expanding our presence in the LED market. To date, we have successfully completed over 200 LED video wall installations across diverse sectors. This growth is a testament to our dedication to delivering cutting-edge solutions that meet the evolving needs of our clients and create new business opportunities.

Growth Opportunities

India's growth has been remarkable, with particularly fascinating developments occurring in tier 2 cities like Amritsar, Chandigarh, and Lucknow, and tier 3 cities such as Bhatinda, Udaipur, and Etawah. Over 2023-2024, these cities have demonstrated significant progress, driven by increasing urbanization, improved infrastructure, and a rising demand for advanced technology. As these areas continue to expand and modernize, we are witnessing a surge in opportunities for both projection and LED video wall solutions. The dynamic growth in these cities underscores the broader economic transformation within India, highlighting the untapped potential and the vibrant future of these burgeoning urban centers.

Pride in an Outstanding Project

The BAPS Shri Swaminarayan Temple in Gondal, constructed in 1934, is a marvel



of devotion and architectural splendor. Dedicated to Lord Swaminarayan, it houses intricately crafted idols and a serene garden. Notably, the temple's nightly light and sound show, powered by our Griffyn 4K35-RGB pure laser projectors, illuminates the façade, celebrating its sacred heritage and architectural brilliance.

We are proud to have blended technology and artistry to create this mesmerizing visual experience. The project's success is a testament to our commitment to innovation and excellence. Strategically placed to map the temple's façade from a distance of 100 meters, the projectors overcame significant challenges, including a global chip shortage and logistical hurdles. We ensured a successful performance by using temporary solutions until the Griffyn projectors arrived.

The transition to the Griffyn 4K35-RGB projectors transformed the visual experience, captivating the client with vivid colors, heightened brightness, and enhanced contrast. This project highlights our ability to exceed expectations and deliver awe-inspiring results. It also won the Systems Integration India Awards 2023 for Best Application of AV in Projection Mapping, reaffirming our pursuit of excellence and commitment to redefining visual standards in projection technology.

www.christiedigital.com

Optimism Fuels Sennheiser's Vision for the Future



Naveen Sridhara, Director Sales - Business Communication, Sennheiser Electronics India Pvt. Ltd.

Focused on Business Communications Segment

At Sennheiser we have been focusing on the business communications segment, we recognize the necessity of catering to the rapidly growing business communication sector. This sector has a distinct customer base compared to the live music and professional audio industries. As a result, we have established a new business unit with its own strategy and team to better serve our customers' needs. We have been consistently working on making its products more user-friendly, with a significant emphasis on seamless integration and hiding the complexity of the technology behind simple user interfaces. Our aim is to support India's burgeoning infrastructure digitization, which necessitates seamless communication solutions. In order to become one of the first choice for advanced audio technology that makes collaboration and learning easier, Sennheiser has allied with Q-SYS to share combined solutions for cloud-manageable audio, video, and control (AV&C) Platforms like Cisco and others.

Our growth journey has been remarkable so far, and we remain committed to maintaining our focus and dedication. Our approach involves engaging with our partners and end-users, understanding their requirements and expectations, and creating solutions that makes collaboration and learning easier. We want our end-users to be able to focus on their meetings and learning and leave the rest to us.

Future Plans

By the first half of next year, Sennheiser has several exciting plans for the Indian market, particularly in the business communications segment. We are committed to expanding our presence and enhancing our digital services to meet the growing demand for advanced communication solutions.

Furthermore, we are leveraging artificial intelligence to make our products smarter and more user-friendly. For instance, our ceiling microphones already feature advanced beam-forming technology that can selectively identify sounds, ensuring clear audio without the need for additional microphones. Overall, these initiatives underscore our commitment to innovation and our dedication to providing value-driven solutions to our Indian customers.

Personalised Approach to Overcome Challenges

One significant challenge is operating in a price-sensitive market like India, where educating customers about the value of premium audio products is crucial. To address this, we actively conduct seminars and training sessions to enlighten consumers on the importance of superior audio quality, shifting the focus from price to long-term value and benefits.

Another challenge is the emotional buying decisions prevalent in the Indian market and the geographic expansion into Tier B cities. We are tailoring our strategies to cater to these diverse customer needs, offering customized solutions for sectors such as government, education, and corporate environments. This personalised approach ensures that our products meet specific requirements, fostering trust and loyalty among customers. Finally, maintaining our premium brand status while ensuring value for money is key. We focus on delivering reliable, high-quality audio solutions that minimize maintenance costs and downtime, offering better long-term returns on investment. Sennheiser is proactively addressing and overcoming these challenges, ensuring continued growth and customer satisfaction.

Innovation and Technology Driving Growth

Over the 2023-2024 period, business opportunities for Sennheiser have been robust, driven by significant growth in several vertical segments. The business communications segment stands out, with increased demand for advanced audio solutions in corporate, education, and government sectors. The rapid



Sennheiser TeamConnect Bar.



Sennheiser TeamConnect Medium Ceiling Microphone.

adoption of hybrid work models and infrastructure digitization in India has created substantial opportunities in these areas.

Innovation and technology have been pivotal in driving growth. Our introduction of Tru Voicelift solutions, part of the TeamConnect Family, has set new standards for audio clarity and intelligibility in professional settings. The strategic collaboration with Q-SYS has further enhanced our offerings, integrating advanced conferencing technology that simplifies and improves communication.

Moreover, our entry into the automotive segment with the 3D Ambeo technology and the integration of our sound systems into the CUPRA Tavascan demonstrates our commitment to expanding into new markets. We are also leveraging artificial intelligence to make our products smarter and more user-friendly, such as ceiling microphones with advanced beam-forming technology. Overall, Sennheiser's focus on innovation, strategic collaborations, and tailored solutions has created new business opportunities and positioned us for continued growth in the 2023-2024 period.

Continued Growth Opportunities

Major metropolitan areas like Mumbai, Delhi, and Bengaluru have shown robust growth, driven by rapid infrastructure development, increasing technology adoption, and a burgeoning creative industry. These cities have a high concentration of corporate offices, educational institutions, and government bodies, all of which demand advanced audio solutions for seamless communication and digital infrastructure. Moreover, cities such as Pune, Hyderabad, and Chennai have also demonstrated impressive growth. The expansion into these markets aligns with the government's push for digitization and smart city initiatives, which have created new opportunities for our business communication and conferencing solutions. These cities are becoming technology hubs, attracting numerous IT and business process outsourcing (BPO) companies that require high-quality audio systems for their operations.

Our strategic efforts, including customer education through seminars and training sessions, have played a crucial role in this growth. By helping customers understand the value of superior audio quality, we have been able to establish a strong presence in these regions. Overall, the combination of government initiatives, infrastructure development, and our focused educational approach has contributed to Sennheiser's robust growth across various cities and states in India.

AI, Advanced Audio Technologies and Government Initiatives will Drive Sennheiser's Business

Sennheiser's hopes for the immediate future are centred around several key areas. The audio industry is on the brink of a transformative era, driven by rapid technological advancements and evolving consumer preferences. Firstly, Sennheiser anticipates a continued rise in the adoption of advanced audio technologies, such as AI-enhanced microphones and seamless integration systems. These innovations will not only improve audio quality but also make technology more user-friendly and accessible. The focus on intelligent audio solutions, like Sennheiser's Tru Voicelift and AI-driven beam-forming microphones, will set new standards for clarity and usability in professional settings.

Secondly, Sennheiser hopes to see a stronger emphasis on hybrid and remote work solutions. The pandemic has fundamentally changed how work is conducted, and there is a growing need for reliable, high-quality audio systems that can support these new modes of operation. Sennheiser's collaborations, such as with Q-SYS, aim to address these needs by providing immersive conferencing solutions that enhance communication and productivity. Finally, Sennheiser is optimistic about the increasing appreciation for premium audio quality among consumers in markets like India. As infrastructure develops and government initiatives drive technological adoption, there will be more opportunities to demonstrate the value of investing in high-quality audio equipment.

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Optimistic About the Future of the AV Industry



Madhulika Sharma, Director, EyeViz Digital Solutions

Creating a Stunning Visual Spectacle

A significant development in our organization has been the installation of a dynamic outdoor facade projection mapping display. This project features 12 powerful 20K Epson projectors mounted on four light poles, creating a stunning visual spectacle. The show is strategically positioned between Lalita Ghat and Kashi Vishwanath Ghat along the Ganges River, enhancing the cultural experience of this historic location.

Every night, the projection mapping display comes to life, combining intricate visual projections with synchronized sound. This harmonious blend of audio and visual elements creates an immersive experience that captivates both locals and visitors. The projections showcase cultural stories, historical narratives, and artistic visuals, transforming the riverbanks into a vibrant canvas of light and sound. With Dataton hardware and Watchout doing the rest.

This installation not only highlights our technical capabilities but also underscores our commitment to enhancing cultural experiences through innovative technology. By integrating advanced projection mapping with the natural beauty of the Ganges River, we have created a unique attraction that celebrates and preserves the cultural heritage of the area. This project exemplifies our ongoing dedication to pushing the boundaries of what's possible in the realm of immersive experiences.

Helping Museums Come Alive

Our primary focus has been on aiding partners and end-users in enhancing projection mapping and creating immersive museum experiences. Projection mapping transforms ordinary objects into dynamic, interactive displays, captivating audiences by projecting images, videos, and animations onto surfaces like walls, floors, and three-dimensional objects. We assist our partners in deploying cutting-edge technology that ensures seamless integration and impactful visual presentations.

In the realm of museum visits, our aim is to transform the traditional museum experience into an interactive and engaging journey. By utilizing advanced projection mapping techniques, we create vivid, lifelike scenarios that transport visitors into different eras or environments. This not only attracts a diverse audience but also enriches their understanding and appreciation of the exhibits.

Addressing Challenges

One of the ongoing challenges our organization faces is keeping up with the continuous evolution of technology. The rapid pace of technological advancements requires us to constantly update our systems, tools, and methodologies. This presents a significant challenge in terms of training both our staff and end users to ensure they are proficient with the latest technologies.

To address this challenge, we have implemented several strategies. Firstly, we invest in regular training programs and workshops for our employees, providing them with the necessary skills and knowledge to stay abreast of technological developments. These training sessions are conducted by industry experts and cover the latest trends and tools in projection mapping and immersive technologies.

Secondly, we focus on creating comprehensive, user-friendly guides and tutorials for our end users. These resources are designed to help them understand and utilize our technology effectively, ensuring a seamless and enjoyable experience.

Growth Potential

Our organization has observed significant growth in Jammu & Kashmir and the Northeast region of India over 2023-2024. This growth is primarily driven by the government's concerted efforts to boost tourism in these areas, recognizing that their economies are heavily reliant on tourist activities.

In Jammu & Kashmir, the government's initiatives to enhance infrastructure, promote cultural heritage, and ensure safety have made the region more accessible and appealing to tourists. These measures have led to an influx of visitors, eager to explore its scenic beauty and rich history. Our involvement in creating immersive experiences through projection mapping and other technologies has further augmented the tourist attractions, making them more engaging and memorable.

Optimistic Future for the AV Industry

Our hopes for the AV industry in the immediate future are exceptionally optimistic. The government's initiatives to boost the tourism economy present a significant opportunity for the industry. As a result, we foresee a growing demand for facade mapping, immersive galleries, and interactive museum exhibits across India.

With the government's focus on enhancing tourist attractions, the need for advanced audiovisual solutions has increased substantially. Cities and states are looking to create captivating and memorable experiences for visitors, utilizing cutting-edge technologies like projection mapping and immersive displays. This trend is not only limited to popular tourist destinations but is spreading across the country, with numerous regions recognizing the potential of these technologies to attract and engage tourists.

Our industry is poised to play a crucial role in this transformation. By leveraging our expertise in creating dynamic visual experiences, we can help elevate the



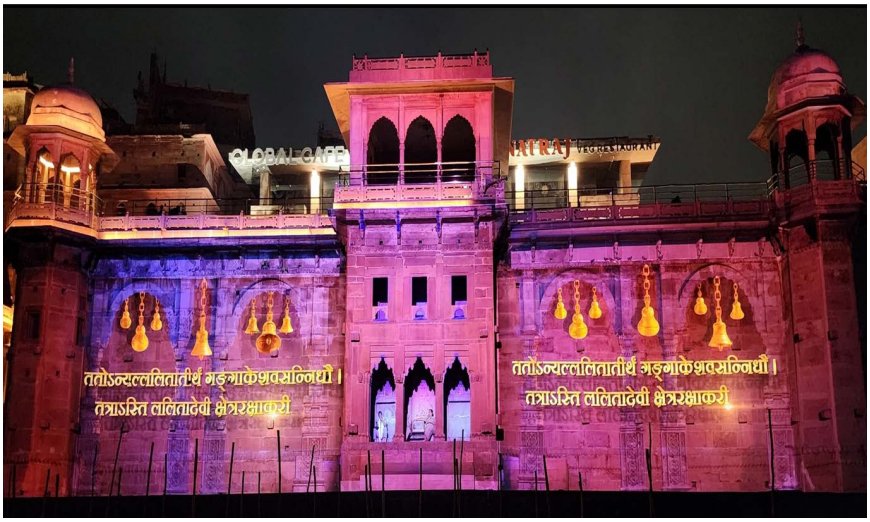
cultural and historical narratives of various regions, making them more accessible and appealing to a wider audience. We are excited about the potential to collaborate with cultural institutions, government bodies, and private entities to bring these innovative solutions to life.

An Installation Pride

One project completed within 2023-2024 that we are particularly proud of is the installation at IMPLEMETATION OF PROJECTION MAPPING AND SOUND ON LALITA GHAT & KASHI VISHWANATH GHAT FACADE, VARANASI, UTTAR PRADESH, INDIA which is one of the holiest grounds on the banks of the River Ganga, with guidance of ND Studio.

This sacred site is constantly active with numerous cremations occurring simultaneously, creating challenging environmental conditions with significant ash and dust presence. Temperatures at this location range from 8°C to 45°C, with humidity levels varying from 30% to 82% throughout the year.

Additionally, the installation involved 16-meter-high poles with projectors and customized all-weather casings, which faced stability issues, especially during the rainy season when the river can rise and submerge the poles up to half their height. To address this, we reinforced the bases of the poles and installed additional support structures to enhance



stability during high water levels. Specially designed steel frames were fabricated onsite for each pole, ensuring proper stability and alignment.

Our engineers worked diligently to design a robust solution to protect the projectors and ensure their optimal performance. We used customized weather casings for the projectors equipped with controlled air conditioning. This system maintains a set internal temperature regardless of external conditions, activating either when the projector is in use or when the internal temperature reaches a specific threshold, even in standby mode. Additionally, a thermostatically controlled heater was installed inside the enclosure to maintain the optimum temperature during low-temperature periods.

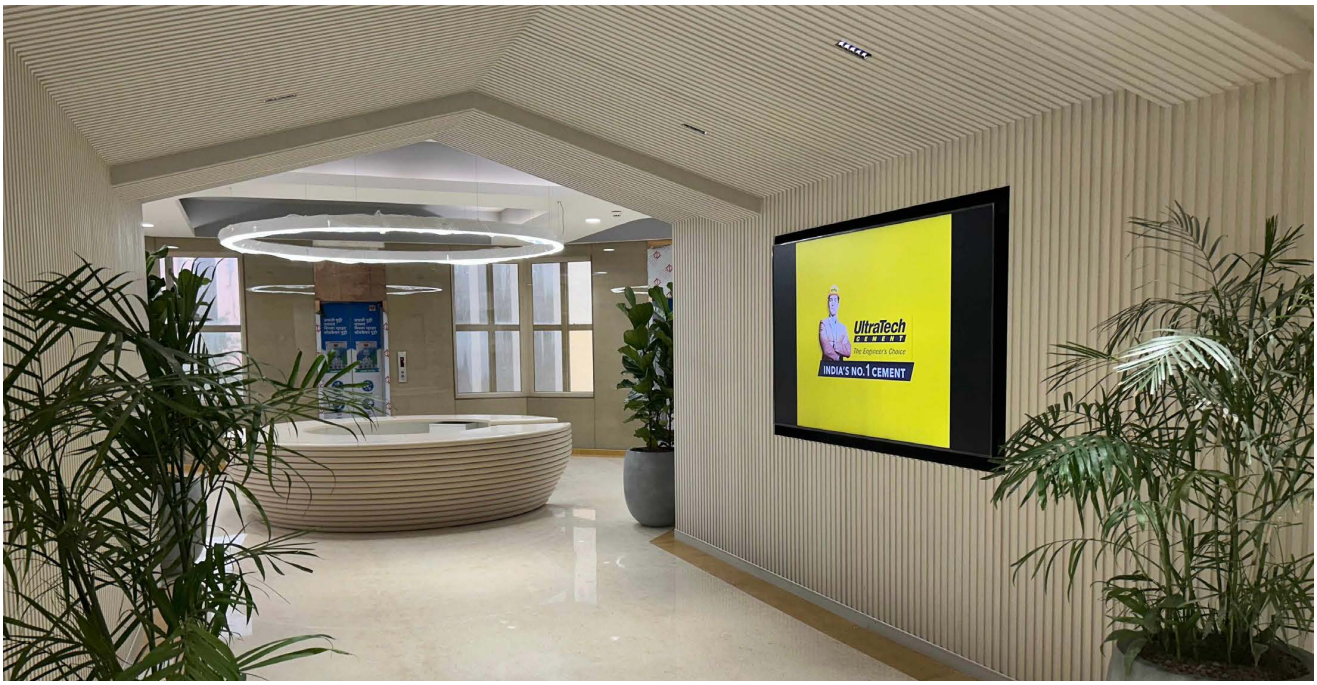
This project exemplifies our ability to innovate and adapt to extreme environmental conditions, showcasing our commitment to delivering high-quality solutions in the most challenging scenarios. The successful implementation at Manikarnika Ghat not only highlights our technical expertise but also our dedication to preserving and enhancing the cultural significance of this sacred site through advanced audiovisual technology.

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UltraTech 'Cements' Futuristic AV Vision

EYTE Technologies, Epitome Infotech team up to weave a massive AV infrastructure

by Ram Bhavanashi



UltraTech Cement Limited (UTCL) – an Aditya Birla Group enterprise – needs no introduction. With a whopping ₹ 2.8 lakh crore (US$38.41 billion approx.) market cap and ₹71,525 crore (US$9 billion) revenues, the cement behemoth is India's largest manufacturer of grey cement, ready-mix concrete (RMC) and white cement, with significant presence in overseas market as well.

With a view to keeping in pace with the rapidly growing and changing market, the Mumbai-based cement major recently upgraded its corporate headquarters establishment with state-of-the-a

Mumbai-based AV consultancy firm EYTE Technologies and Bengaluru-based IoT/AV systems integration firm Epitome Infotech Solutions Pvt Ltd came together to ensure the massive AV deployment met the UTCL requirement to perfection.

SI Asia presents a snappy account…

The Backdrop

UTCL, the brand, in short, stands for many things. High-quality product, transnational operations, and a grand vision for a technology-powered future. Given that, when the corporate giant decided to upgrade their corporate headquarters establishment, it couldn't be a routine conventional sort.

It was in deed a massive, ₹20 crore-project (close to US$4 million), and involved multiple spaces- Reception areas, general cabins, CXO & MD cabins, boardrooms, meeting rooms, cafeteria, gymnasium, and a media room. Understandably, the AV investment alone pegged up to ₹4 crore (approx. US$479,000).

EYTE Technologies, and Epitome Infotech came together to realize the client vision for a futuristic yet functional AV infrastructure.

> *"On behalf of all of us from UTCL, we appreciate Team EYTE for its dedication and support all along for this deployment. It's been a great pleasure working with EYTE; we look forward to having next opportunity, again with EYTE."*
>
> *- Arvind Mohite, Admin Head, UTCL, Mumbai*

FACTFILE

Project Name: Ultratech Cement Limited (UTCL), Ahura Centre

Project Location: Marol, Andheri (E), Mumbai

Project Segment: Corporate

Project Owner: Aditya Birla Group

Project Operator: Ultratech Cement Limited

Project Management Consultant: CBRE Group Inc.

Project Design Consultant: EYTE Technologies

Project Architects/Interior Designer: Edifice Architects

Project Acoustic Consultant: EYTE Technologies

Project Systems Integrato: Epitome Infotech

Project Highlights: Venue-specific operational technology (OT) network to facilitate wireless connectivity, enabling centralized control via a wireless touch panel. A single touch interface to effortlessly manage diverse AV devices, lighting and HVAC systems.

Key AV Brands: Samsung UHD and Interactive Displays, Elite Projection Screen, Panasonic Projector and Camcorder, Biamp Pendant Ceiling Mic and DSP, Sennheiser Ceiling Tile Mic, Wireless Handheld/Headworn/Lapel & Headworn Mic, QSC Ceiling and Wall Speakers and DSP, Crestron Control System, Touch Panels and Room Scheduler, NFS Room Scheduling Software, Yealink Speaker Tracking Camera, Lumens Presenter Tracking Camera, Datavideo AV Studio Console, BrightSign Digital Signage Player and Veris Visitor Management System.



"The need analysis stage involved multiple stakeholders, each contributing their insights and suggestions, necessitating swift consolidation to align with the project's objectives," explains **Abdul Waheed, EYTE's Founder-Director**.

According to him, the primary focus areas were the mid-sized rooms to be equipped with all-in-one video conferencing capabilities; facilitate presentations in smaller rooms; and establish comprehensive AV functionality in the boardroom.

"Additionally, specialized set-ups such as Town Hall arrangements in the cafeteria and signage content management at the Reception were part of the intent," he recalls. "These special areas, due to their different shape, size and scale, posed some unique challenges."

The AV design and integration, therefore, demanded an expertise that blends sophistication and easy-to-use simplicity for a custom-deployment.

"There were six contenders vying for the prestigious job, and the client evaluated each contender's competence and



precedence in deployments of similar scale," recalls **Bala Subramanyam, Founder-Director of Epitome**. "Our credentials in IoT/ICT solutions deployment, and positive recommendations from previous/ existing clients helped our cause."

A Challenge Potential - Time & Scale

Though not termed as such, it had to be like a fast-track project execution with inherent challenges of time and scale. So, all such challenges had to be factored during the interactions with the client team.

"We stepped in fully knowing we have to deliver a 30-day-deadline project," recalls Bala. "This was not a simple AV project," he asserts. "This had multiple Teams rooms, a completely automated board room, and a full-blown media and broadcast studio."

More complexity came in with the integration of four different custom applications on the IoT front. Further, the hardware and software applications in each of those areas had to go through a rugged CISO security approval process.

"That was, simply, a very exhilarating experience," say the consultant and integrator in unison.

That both the AV and IoT set-ups had to run on the customer network, absolute knowledge of Cloud Integration in a secure domain – which included integration of AD, O365, SSO and Graphic API along with Security ports communication – it required a meticulous detailing.

"EYTE's design was very meticulous, and the detailing given eased our understanding of the functionalities to be delivered," recalls Bala.

"The customer's users were being exposed to this degree of AV capability for the first time; so the system operationalization had to be made very user friendly," he explains further. "This also called for multiple iterations in configurations to accommodate the way the systems can be operated and multiple users testing before final sign off."

According to him, Epitome's domain expertise ensured that all those interactions with the client's data center and AD teams were straightforward and uncomplicated.

He, however, commended the client's IT team for their proactive support and alignment with the integration team at each level that had its own contribution to keeping the deadline delivery promise.

"We have to specially thank the IT team, for their forthcoming support," says the Epitome Director.



Meeting space.

The Fast-tract Deployment

With every area mapped clearly, and system configuration explained with minute details, it all apparently became a smooth execution, with all challenges factored in.

Reception – To begin with the mapped job from the Reception, the design introduced an 85" Samsung display solution tailored specifically to the designated area, with minimal adjustments but aimed at refinement and sophistication.

Meeting Spaces – These spaces with multiple teams needing multiple sessions for business deliverables, tended to make it arduous task for the facility manager to address the needs.

Traditional methods of telephone calls and emails till then often resulted in double bookings and strain on employee schedules. To address this challenges, the design team engineered a comprehensive solution cantered around certified MTR (Microsoft Teams Rooms) video bars with One Touch to Join functionality, seamlessly integrated with a bespoke room scheduling system.

The cornerstone of the solution stayed in the synchronization between MTR touch panels and the custom room scheduling software. By developing a tailored room scheduler solution encompassing both hardware and software components, the design ensured compatibility with MTR systems while delivering a user-friendly design. This holistic approach optimized booking process, streamlined communication, and alleviated burden on employees, thereby enhanced overall efficiency within the meeting spaces.

Boardroom – The architectural layout presented a unique challenge, with a tightly baffle ceiling above the sitting area and a perimeter of POP ceiling. In addition, an intricately finished table posed limitations on modifications, necessitating a strategic approach to AV integration.

To optimize audio quality and maintain the aesthetic integrity of the space, pendant microphones were proposed in conjunction with ceiling speakers for seamless audio reinforcement. Given the V-shaped configuration of the table, the implementation of VC cameras, paired with the expansive 85” displays, aimed to foster a more immersive meeting experience for board members.

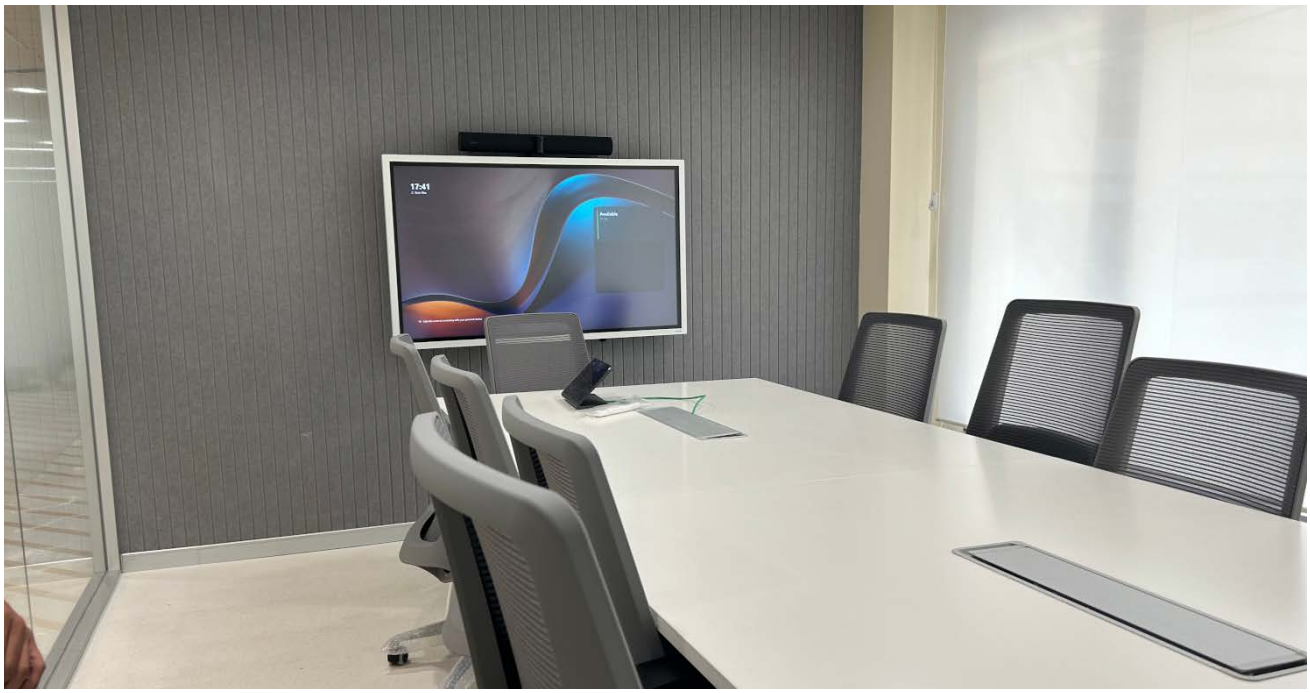
A key consideration in this project – according to the consultant – was the client’s stringent network policies, which restricted AV devices from accessing the IT network, except for essential components such as MTR (Microsoft Teams Rooms) and room scheduling systems.

To overcome this challenge even while ensuring seamless operation, EYTE came up with a design suggesting a dedicated Operational Technology (OT) network. This dedicated network facilitated wireless connectivity, enabling centralized control via a wireless touch panel. Through a single touch interface, board members could effortlessly manage AV devices, as well as lighting and HVAC systems, enhancing convenience and efficiency during meetings.

The design and integration teams, thus, succeeded in creating a sophisticated and user-friendly environment tailored to the discerning needs of board members.

MD & CXO Cabins – keeping in view the profile of the space, the design recommended a video bar-based MTR solution complemented by a wireless touch panel for streamlined HVAC and lighting control.

However, the sensitivity of the area posed a challenge, with the client wanting a restricted movement within both the designated space and adjoining areas.



Boardroom.

To address this requirement, EYTE proposed a tailored IoT-based solution featuring IoT gateways and beacon cards. These components work in tandem to detect movement within the specified area, triggering real-time notifications to the security team and relevant personnel should any unauthorized entry occur.

Says Abdul, the EYTE chief: "This proactive approach not only enhances security measures but also provides peace of mind to occupants, ensuring the integrity of the space is always maintained."

Furthermore, to fortify access control measures, the design suggested the implementation of a face recognition-based device coupled with a magnetic locking system on the cabin door. This sophisticated solution restricts entry exclusively to authorized individuals and their designated personal assistants, thereby safeguarding confidentiality, and ensuring that only approved personnel gain access to the sensitive areas.

Due diligence at the client's end meant they preferred the face recognition-based solution against the Beacon-based card solution.

Media Room – one of the four special areas, this multifunctional room too posed a unique challenge, requiring adaptable setups for boardroom meetings, training sessions, and media events. While the boardroom and training room configurations aligned with established norms, the integration of backend devices for media room functionality presented a distinct challenge.

In close collaboration with the client's dedicated Media Room team, and the integrator, the design team crafted a bespoke solution. The envisioned setup necessitated a stage layout equipped with handheld microphones and strategically positioned cameras to capture speaker interactions effectively.

Given the diverse range of events hosted in the space, including executive addresses, AGM presentations, interviews, and critical communication scenarios, robust streaming capabilities were paramount. To facilitate seamless live streaming of events and ensure reliable communication during emergencies, high-end devices such as video conferencing systems and dedicated 4K broadcast cameras were recommended.

A specialized streaming and recording device was integrated to enable simultaneous broadcasting on platforms like YouTube and Facebook, while archiving recordings locally for future reference. Recognizing the critical role of internet connectivity, dedicated lease lines were proposed to ensure uninterrupted access.

Central to the operation of the entire setup was an iPad-based automation controller, providing intuitive control over various AV components. Furthermore, essentials such as a chroma screen with broadcasting lights were also incorporated to enhance visual presentation quality.

The comprehensive solution encompassed a Teleprompter, tracking-based cameras, handheld and head-worn microphones, a dedicated 4K PTZ camera on a tripod, an 85" display, and an iPad for automation.

Decoding Solutions: Technical Comparison & POCs

Following rigorous evaluation and multiple demonstrations, the client opted for Samsung's state-of-the-art interactive and non-interactive display solutions. Addressing security concerns and IT policy compliance, the project team conducted extensive demonstrations, ultimately selecting the Crestron Flex-based system for video conferencing. This choice ensured both functionality and adherence to stringent security protocols.



For boardrooms and media rooms requiring advanced video conferencing capabilities, Lumens and Yealink emerged as top contenders for VC tracking cameras. These selections were made based on performance, compatibility, and specific room requirements. To ensure superior audio quality and efficient control functionalities, the project utilized Crestron and QSC for back-end processing.

This strategic decision ensured seamless integration and reliable performance across all audio and control processes Bright sign was chosen for dynamic signage needs, including food menus, open area messaging, and reception signage. Its versatility and intuitive management interface perfectly aligned with the project's dynamic communication requirements. In areas such as the cafeteria and town hall, QSC speakers, Elite Projection screens, and Panasonic projectors were selected to enhance the audio-visual experience.

This comprehensive setup ensured immersive experiences for both audio and visual elements. For IoT implementations, NFS was finalized for room booking solutions, while Bio-star and Veris were chosen for access control, including facial recognition technology. These selections were made to optimize functionality and security across the facility.

Through meticulous evaluation and selection processes, the project team successfully identified and implemented best-in-class solutions for each aspect of the audiovisual project. By prioritizing performance, reliability, and security, we are confident in delivering an exceptional user experience that meets and exceeds the client's expectations.

"Though a lot of people would consider our IoT install a wow factor, personally our team enjoyed the Media and Broadcast room install," says Bala for his liking of the work done there. "There was no room for error and integration included multiple professional cameras, studio chroma backgrounds, integrated with studio lights on DMX control, MS teams Webinar and interactive surfaces," he explains, "Lots of detailing was done on the acoustics that resulted in exceptional sound quality. A single space with so many technologies integrations made to work on the first go, and gets lauded by the user team, is always satisfying."

EYTE team, on its part, had do a lot of work on acoustics too, given the concrete structure that the space was, and the shape and size they were designed.

"A very demanding customer makes any project tough," the Epitome Director commends the consultant for the expertise. "Eyte helped define the functionalities very well. The component evaluation and selection for this project was well thought through. A highly technical project delivered at such an affordable cost was a highlight that's difficult to ignore."

The Sign-Off

By November 2024, the project reached its culmination with a successful handover, enabling the client to fully utilize the space. Regular audits were conducted to identify and rectify any snags, with the AVSI playing a pivotal role in optimizing the AV system's functionality. With all snags addressed, the project achieved completion in March 2024.

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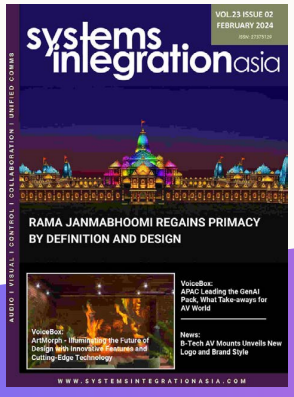
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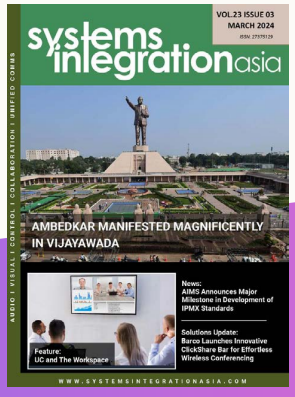
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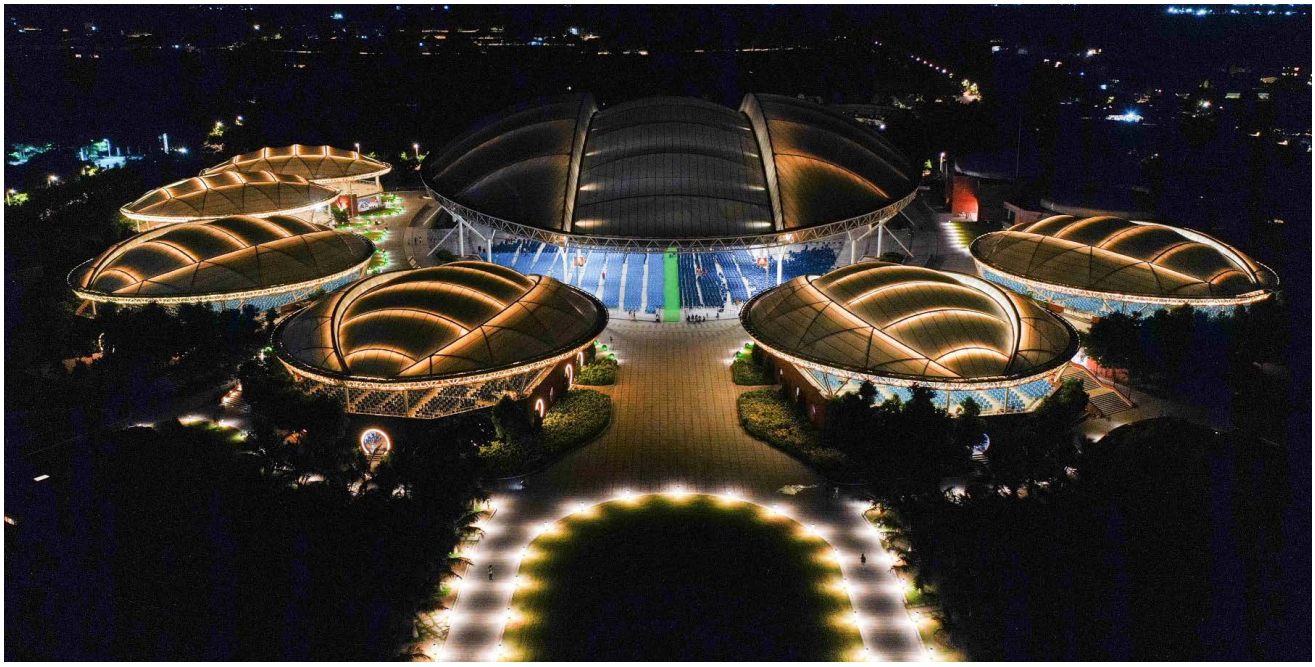




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Harmonising Spiritual Serenity: Ansata's Triumph at Kanha Shanti Vanam



The Architectural Marvel of Kanha Shanti Vanam

In the realm of audio technology, the inauguration of Kanha Shanti Vanam on January 29, 2020, marked a significant milestone. Nestled in a serene landscape, this meditation center stands as an architectural marvel, captivating the attention of all who enter its gates. With a seating capacity for an astounding 1,00,000 individuals, the meditation hall is a space of profound spiritual significance.

Kanha Shanti Vanam's awe-inspiring architecture incorporates a large open dome-shaped structure that poses a formidable acoustic challenge. The challenge lay in managing high reverberation within the expansive space. Despite numerous attempts by various companies, it was Ansata that embraced this challenge and ultimately succeeded.

With a large dome at the center and five smaller domes surrounding the periphery, there was a dire need to deliver intelligible sound to the last person sitting in the farthest dome. This spiritual marvel is not only testimony to serene and quiet meditation waves but also sets it up for numerous musical shows conducted by some of the world's top maestros.

The central meditation hall, with its striking design, serves as the heart of Kanha Shanti Vanam. The crux of the project lay in addressing the substantial acoustic challenges posed by the hall's dome shaped structure. Its vastness required a thoughtful and innovative approach to audio system design and execution.

Overcoming Acoustic Challenges with Precision

Ansata, renowned for its expertise in electroacoustic solutions, deployed a team of skilled system engineers to develop the optimal solution for the acoustic challenges presented by the unique architecture.

The team meticulously worked on devising an electroacoustic design that would not only meet the technical requirements but also deliver exceptional sound quality.

The chosen solution centered around d&b audiotechnik's T-Series, which leverages the power of the smallest line array to create a distributed loudspeaker system. This strategic deployment effectively mitigated the high reverberation in the meditation hall, ensuring clarity and precision in audio delivery. The main array consisted of T-Subwoofers and T10 loudspeakers placed on both sides of the hall, providing a balanced and immersive sound experience.

> *"Every word was heard crisp and clear, not only in the meditation hall but also in the satellite building, so that was a very very successful demo, I must say of d&b proving that if you put d&b line array system in this particular fashion, in this particular design, not only the meditation hall but satellite buildings will also be taken care of."*
>
> ***Vikram Shrivastava, the Head of Production at Kanha Shanti Vanam***



To complement the main array, fill arrays and compact point sources were strategically integrated as needed. The setup also included delay arrays, 8S, E8, and compact 5D amplifiers, demonstrating a holistic approach to audio system design. For musical performances, Vi-G Subwoofers were introduced, enhancing the overall versatility of the audio system.

One of the groundbreaking elements of the solution was the incorporation of Audinate's Dante technology. This revolutionary technology transformed the transmission and management of audio, enabling seamless, high-quality, and low-latency audio transmission over standard Ethernet networks. This innovation facilitated efficient signal transmission over both CAT 6 and fiber connections, enhancing the overall performance of the audio system.

Echoes of Triumph

Vikram Shrivastava, the Head of Production at Kanha Shanti Vanam, shared his experience: "Every word was heard crisp and clear, not only in the meditation hall but also in the satellite building, so that was a very very successful demo, I must say of d&b proving that if you put d&b line array system in this particular fashion, in this particular design, not only the meditation hall but satellite buildings will also be taken care of."

He further elaborated on a pivotal moment after the project: "After the



installation, Daaji came for satsang and he gave a small talk maybe 10 minutes or 12 minutes and when he started speaking my heart was really pumping fast after putting so much effort, money, and hope and technology, you know, what would be the audience reaction. While he was giving a talk, I was moving around in the meditation hall listening to how the speakers were sounding and just keeping a close watch on the places, and I was so flabbergasted that there was a smile on everybody's face. Apparently, they were listening to Daaji but showing thumbs up to me and that was such a big relief. I had tears in my eyes that finally, you know, by Master's grace, his voice can reach each and every individual with the help of Ansata and d&b speakers."

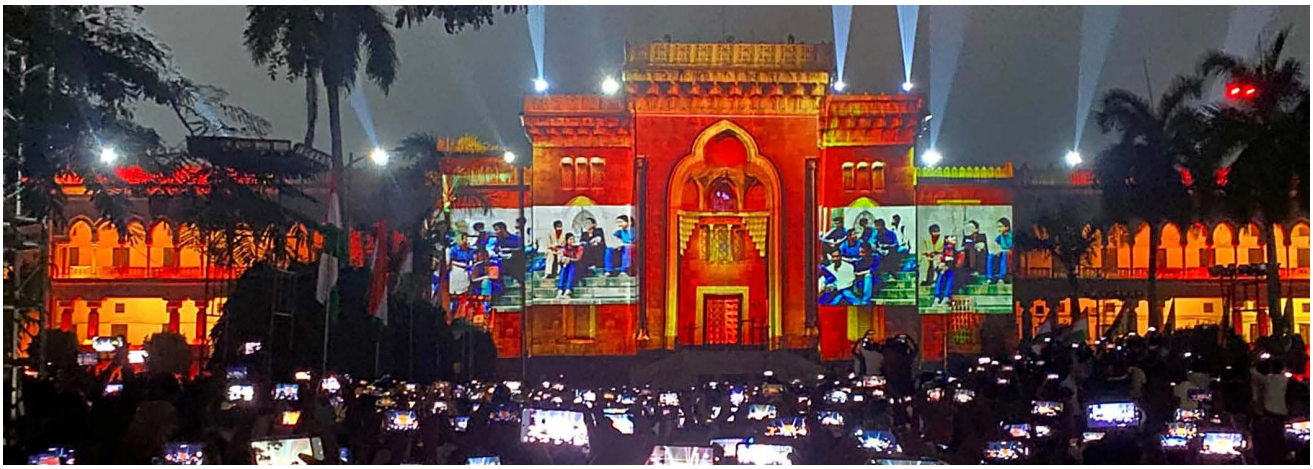
The Confluence of Technology and Spirituality

Ansata's triumph at Kanha Shanti Vanam serves as an inspiration to audio professionals worldwide, inviting them to explore new horizons in the pursuit of audio excellence. The project showcases the transformative power of innovative audio solutions, demonstrating how technology can enhance and elevate spiritual experiences.

As we look to the future, Ansata envisions a continued confluence of technology and spirituality in the audio industry. The success at Kanha Shanti Vanam serves as a beacon, guiding the way forward for audio professionals to navigate and overcome challenges in diverse and unique environments. Ansata remains committed to pushing the boundaries of audio technology, creating immersive and transformative auditory experiences that resonate with the essence of the spaces they enhance.

www.ansata.net

Christie HS Series Projectors Illuminate Osmania University's Iconic Arts College with Captivating Visuals



The breathtaking light & sound show at Osmania University, powered by Christie DWU23-HS laser projectors. Image courtesy of Aura Bright Light India.

Christie DWU23-HS laser projectors play a pivotal role in a new light and sound show at Osmania University, transforming the façade of its iconic Arts College building into a canvas for breathtaking visual displays.

Located in Hyderabad, Osmania University is one of India's oldest and most prestigious institutions of higher education. The university undertook this large-scale nighttime spectacle to celebrate and preserve its rich history, and foster pride and appreciation for its heritage among students, faculty, and visitors. The project is designed to enhance the educational experience by offering an innovative and engaging way to explore Osmania University's journey since its founding in 1917.

Aura Bright Light India Pvt Ltd integrated the project and was instrumental in bringing this amazing display to reality. Its expertise in integrating advanced AV technologies with historic architecture ensured a seamless blend of modern visuals with the university's history. Aura Bright Light India meticulously managed the installation, testing, and commissioning of the Christie DWU23-HS projectors, ensuring optimal performance and reliability.

"Using the Christie DWU23-HS projectors, we achieved outstanding visual clarity and colour accuracy that brought the light and sound show to life," said Shailesh Vasani, managing director of Aura Bright Light India. "This project is our first large-scale endeavour combining both visual and audio technologies, and we are proud to deliver high-resolution images with remarkable detail. Our team's dedication to seamlessly merge advanced technologies with the university's iconic architecture was crucial in creating an immersive and captivating experience."

Rishubh Nayar, Sales Director for India, Enterprise, Christie, added, "We are thrilled that our DWU23-HS projectors were chosen for this prestigious project. The superior performance and reliability of the HS Series projectors make them the perfect choice for such a significant installation. It's an honour to contribute to a project that blends technology with culture and history so effectively."

The Christie DWU23-HS projectors are strategically positioned to deliver colourful, lifelike imagery on the Arts College's façade, which spans 350 feet in length (107 meters) and 60 feet in height (18 meters). With guidance from Rhino Engineers Pvt Ltd, which managed the project and provided design consultancy, and the creative content expertise of Knownsense Studios, the project was executed seamlessly and completed on schedule.

"We're very pleased to have been a part of this major project that brilliantly brought Osmania University's rich history and achievements to life," said Narendra Naidu, chairman and managing director of Rhino Engineers. "The collaboration between all teams has resulted in a truly fascinating and educational experience for all."

The show features music by Indian composer and playback singer Vandemataram Srinivas, and voiceover by renowned South Indian actor Sai Kumar. Inaugurated by India's Tourism and Culture Minister, G Kishan Reddy, the 20-minute performance runs on weekends, delighting spectators with its immersive visual and auditory experience.

"This synergistic partnership makes Osmania University's light and sound show a standout feature, successfully preserving and celebrating its rich heritage while creating a lasting impact on the university and the community," Vasani added.

Featuring BoldColour+ technology that enhances colour performance with deeper blacks and more natural, realistic onscreen visuals, the 23,650-lumen DWU23-HS laser projector is known for its compact form factor and quiet operation, with noise levels as low as 35dBA. This makes it ideal for various applications ranging from live events to museums and boardrooms.

Additionally, the DWU23-HS is compatible with Christie Mystique, an automated camera-based alignment and recalibration software that allows for quick installation, alignment, calibration, and maintenance of multi-projection systems.

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