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AV TODAY

TECHNOLOGY · PEOPLE · EXPERIENCES

Under Perfect Control

Inside the India's first AI Powered Integrated Command & Control center in Tirumala Tirupati Devasthanams

Insightful Conversations

Rhythm Arora
CEO Qubix Technologies

Viswanatha Raju
Managing Director
KEENFINITY India Pvt. Ltd

Shrinivas. T
Country Head
Avientek Electronics India

Hemal Bhatt
Founder & CEO
N-LABS

INTERVIEWS:
- Keenfinity Group
- Avientek
- N-Labs

FEATURED ARTICLE:
- How AV powers Command Centers

CASE STUDY:
- Tirumala Tirupati Devasthanams

TECHNOLOGY:
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Founder's Note

K. David Paul Sudhakar
Founder, AV Today

Dear Readers,

It's a pleasure to connect with you once again through this latest edition of AV Today. After an exciting season marked by **InfoComm India** and **GITEX**, we bring you new insights into how **Audio-Visual technology is redefining command and control centers across India**–their evolution, current innovations, and the transformative potential of Artificial Intelligence shaping their future. Our cover story delves deep into this dynamic segment with perspectives from leading industry experts.

In this issue, we had the privilege of speaking with **Viswanatha Raju**, Managing Director of the **Keenfinity Group**, who shared valuable insights into their longstanding contributions to the AV domain. We also caught up with **Hemal Bhatt of N-Labs**, whose vision and innovation are driving the next generation of indigenous audio products in the Pro AV market. In another engaging feature, **Shrinivas from Avientek** reflects on his professional journey, the company's vision for India, and his take on the evolving AV distribution ecosystem.

A special highlight of this edition is our **podcast feature with Rhythm from Qubix Technologies**–a conversation that offers an inspiring look at leadership, business transformation, and the integration of AI tools to deliver exceptional customer experiences.

We've also captured a snapshot of the **latest product launches from InfoComm India 2025**, offering readers a concise overview of key innovations shaping the market. This issue leans heavily into **technology-driven features**–with stories exploring **Anamorphic displays, the science of audio cabling in hospitality environments**, and **Ben's insightful analysis on what IT managers should know before entering the AV space. Sudharshan** contributes a thought-provoking article on the **need for High Performance event venues in India**, emphasizing the opportunities that lie ahead.

Another standout story is the **case study from AVFx**, detailing India's **first AI-enabled control centre** designed for efficient crowd management, launched by **Tirumala Tirupati Devasthanams**–a remarkable example of how technology and tradition can coexist to create safer, smarter public environments.

We also feature a selection of **noteworthy AV installations** from across the country, highlighting the innovation and excellence driving the Indian AV industry forward.

As always, our goal is to keep you informed, inspired, and connected to the developments shaping this vibrant industry. I hope this edition helps you **learn, explore, and engage more deeply with the fast-evolving AV landscape in India**.

Warm regards,

K. David Paul Sudhakar

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Every Connection Tells A Story

We Help You Create It

Kiran Mehta speaks to Viswanatha Raju K, Managing Director of KEENFINITY India Pvt. Ltd., part of the KEENFINITY Group, a global powerhouse that comes with a rich and varied legacy.

The KEENFINITY Group carries forward the legacy of giants such as Bosch Building Technologies. Over the past several decades, with its ambitious engineering, this business division of Bosch has built an unrivalled audio portfolio of five global brands such as Bosch Public Address & Conference Systems, Dynacord and Electro-Voice, which deliver professional audio systems, and RTS and Telex, which deliver critical communication systems. Now, these pivotal parts of Bosch's legacy are upheld by the KEENFINITY Group, of which KEENFINITY India Pvt. Ltd. is a part.

Mr. Viswanatha Raju K, Managing Director, KEENFINITY India Pvt. Ltd. explains, "In May 2025, Bosch Group's Security and Communications Technology Product Business was sold to the European Investment firm Triton Partners, which is named the KEENFINITY Group. This group operates as an independent company within the Triton portfolio." Mr. Viswanatha explains that KEENFINITY is a global leader in professional communication and security systems. He states, "The realignment promises to uphold the legacy of Bosch, while Triton's commitment is to develop these offerings in the fastest growing markets, such as India." The name KEENFINITY reflects the eagerness to explore the possibilities in the wake of such strategic carve-outs.

The KEENFINITY Group provides cutting-edge communication systems, video systems, access control and intrusion alarm systems and electronics manufacturing services. The five legacy audio brands we talked about in the beginning come under the professional communications systems' offerings of the group. Talking about Bosch-created PAVA (Public Address and voice alarm) systems, Mr. Viswanatha informs, "These systems are used in airports, railways, metros, convention halls, hospitals, educational institutes, across the globe, right from the western countries to the global south."

When it comes to PAVA systems in transportation hubs, there are many challenges. For instance, in an airport, announcements need to be heard clearly in noisy terminal halls. Or automated emergency systems need to work seamlessly with communications technology, during evacuation procedures such as during a fire. This is a major concern, not just for transportation hubs but also for hospitals, which see different kinds of emergencies. Precise, timely communications ensure efficient disaster management in all these establishments, even in offices and apartment complexes. Also, as complexes go vertical in order to support the increasing population, communication remains a pressing issue even in non-emergencies because here the communication has to take place across different floors. That's where a futuristic system like PRAESENSA comes to the rescue.

PRAESENSA is a pioneer in

IP-based PAVA systems. Mr. Viswanatha says, "In a time when most such systems were relying on traditional analog, PRAESENSA offered a fully IP-based architecture, working on open, interoperable standards." This transformation was the solution that the industry dreamed of - the ability to connect a host of devices over a standard ethernet network." Open standards connected third-party devices too, avoiding the restrictive issues faced by proprietary, incestuous systems.

PRAESENSA's magic doesn't end there; it also comes with intelligent technology Mr. Viswanatha reveals, "Redundant network paths, backup amplifier channels, and continuous device supervision eliminate single points of failure, which is critical for airports, metros, and industrial facilities." It is due to such unmatched offerings that PRAESENSA is in use at the Munich International Airport, Warsaw Chopin International Airport, Dubai International Airport, among others.

PRAESENSA is built on Bosch's 90-year legacy in PAVA systems. This heritage brings together decades of experience. Mr. Viswanatha says, "Every interface is intelligently designed to make operations simple. Touchscreens display clear prompts, while LED indicators reflect the live status of all components. Through role-based access to technology, users see only those controls that are specifically relevant to them. This reduces human error."

PRAESENSA has been engineered in Europe. Mr. Viswanatha says, "In India, we implement this globally proven platform while aligning it with local infrastructure, installation practices, and service expectations." PRAESENSA's installations are complemented by made-in-India Bosch loudspeakers and power supplies, supporting the Make in India initiative.

While PRAESENSA and other such Bosch systems ensure that every announcement is delivered with clarity, precision, and reliability across dynamic environments, the communication doesn't end there. Within boardrooms, council chambers, and command centers, Bosch extends its legacy of trusted engineering through advanced conference systems that enable structured dialogue, intelligent control, and collaboration. Together, these solutions form a communications ecosystem. One such technologically advanced conference system is DICENTIS.

Mr. Viswanatha explains, "The pandemic reshaped how we work. Today, meetings are hybrid, bringing together in-person and remote participants. Bosch's DICENTIS conference system and its Hybrid meeting functionality was developed precisely for this method of collaboration."

Built on an IP-based architecture, DICENTIS combines in-room conferencing with a native, cloud-hosted hybrid platform that allows remote delegates to join through a browser-based interface on their PC, laptop, or tablet. All this, without additional software.

Every participant enjoys equal functionality, regardless of location. They can speak, vote, follow interpreters, receive updates on results or share visuals. Meeting organisers retain control – managing speaker lists, timers, voting modes, quorum counts – exactly as in an in-person setup. Mr. Viswanatha assures that, "Data is encrypted and access-controlled for confidentiality."

DICENTIS is also extremely versatile. The conference solution serves a range of organisations - mid-sized offices, multinationals, local/national governmental conferences and International summits. Mr. Viswanatha reveals, "DICENTIS has been chosen by several state assemblies for their main halls and committee rooms. It is also used in courtrooms across India, and in central/state government offices."

DICENTIS too is built on open standards, enabling the integration of different technologies, inclusive of third-party solutions. It allows for integration with supporting systems to provide features such as camera control, interpretation of up to 100 languages, and power supply redundancy.

At the heart of any conference system lies clarity. DICENTIS uses intelligent acoustic technology. It maximizes intelligibility when higher volume levels are required and prevents echoes for sharper audio.

The group has other communication systems that serve sectors beyond the corporate and industrial worlds under brands such as Dynacord and Electro-Voice. The duo offers a portfolio of professional audio systems. They empower the performer while creating an engaging experience for the listener. In concert venues, houses of worship and entertainment arenas, Dynacord and Electro-Voice deliver exceptional audio across a range of applications.

Recently, the Dynacord and Electro-Voice were instrumental in shaping the sound and lights show, at the historic Jhansi fort. The high output audio blended with stunning visuals to tell the story of Rani Lakshmi Bai. The legacy brands' products continue to reinvent themselves under KEENFINITY, exploring new possibilities.

Mr. Viswanatha believes that the key to success lies in innovation. He says, "We design and manufacture in our facilities in the western countries and Asia, including India, ensuring quality and innovation, while keeping-up with the global requirements, alongside attuning to local needs." Sometimes, a product is years in the making. Research and development does not end with product release. User feedback is collected to improve the product. After all, at the heart of innovation is the ease of use and a product that customers trust.

When it comes to global expansions, the KEENFINITY Group believes in giving back to local communities. The group consciously builds ecosystems, providing complete design support, project engineering, technical training, and on-site assistance to system integrators, nationwide. They also make their global certification programs available locally, ensuring Indian partners are trained to international standards. Their signature line which states, 'Secure, Connect & Amplify the moments that matter in life', perhaps best sums up the legacy that the brands carry with themselves in the KEENFINITY Group.

Technology Distribution Excellence

How Avientek is Building Ecosystems, Not Just Moving Boxes

Shrinivas Timmanagoudar
Country Head, Avientek Electronics India

Doubling revenue year after year for four consecutive years. That's the growth trajectory of Avientek Electronics in India, a company that's rewriting the rules of AV distribution by doing something most distributors wouldn't dare, convincing telecom and IT partners to enter a market they knew nothing about. And it's working spectacularly.

When Shrinivas Timmanagoudar joined Avientek Electronics India in 2021 as the fifth employee, the company was virtually unknown. Most partners hadn't heard of Avientek. Those who had, dismissed it as just another Middle East company testing the Indian waters. Four years later, that perception has changed dramatically.

Shrinivas recalls, Avientek's journey began with a simple yet powerful vision , to make technology more human, accessible, and integrated. When we started, the AV industry was still very hardware-centric, with limited focus on interoperability or user experience. We saw a huge opportunity to bridge that gap, to create solutions that not only deliver high performance but also simplify how people communicate, collaborate, and learn.

"When we started, not many people knew who Avientek was," Shrinivas recalls. "They thought somebody from the Middle East had started operations here. That was the initial assumption from partners." But what began with skepticism has transformed into something far more substantial. Today, Avientek India boasts over 1,000 registered partners and represents some of the world's leading technology brands including Logitech, Sharp, SMART, G&D and Infobit.

The team has grown from a handful of people to many dedicated professionals serving India, with physical offices in Bangalore, Mumbai, Kolkata, and Delhi, and presence extending to Chennai, Cochin, Pune and Hyderabad. The company recently moved into its own building in Indiranagar, Bangalore, a visible symbol of its commitment to the Indian market.

Beyond Boxes

What sets Avientek apart? "When somebody says distribution company, what comes to mind is someone who sells boxes, part number billing, right? But we're not the same," Shrinivas explains, Over the years, Avientek has evolved from being a technology distributor to a complete solutions provider with expertise across Audio-Visual, Unified Communications, Control Systems, and Educational Technologies. Our growth has been fuelled by innovation.

Avientek has earned its reputation not just by distributing products, but by delivering design-driven solutions, extensive training, and hands-on partner empowerment. "When a new product is brought to market, we go to the site with our partners," explains Shrinivas. "We help them install the first one, guide them through the second, and by the third installation, they're empowered to do it on their own." This collaborative method ensures that partners gain both technical confidence and real-world experience, transforming them from resellers into solution providers who can independently deliver high-impact AV deployments.

This approach stems from Avientek's roots as a next-generation technology company focused on delivering integrated Audio-Visual (AV), Unified Communication (UC), and Educational Technology solutions. "We don't just provide products; we deliver complete ecosystems that bring together innovation, simplicity, and user experience," Shrinivas emphasizes.

Breaking Traditional Barriers

Perhaps Avientek's most innovative strategy has been its unconventional approach to partner recruitment. While most distributors focus on traditional AV partners, Shrinivas and his team saw opportunity in adjacent industries.

"We realized that traditional AV partners were already offering AV Solutions. If we wanted real reach, we needed to expand beyond that." The solution? We chose to expand the ecosystem by engaging non-AV partners, specifically Telecom and IT firms with strong customer relationships but little exposure to AV.

The logic was clear: telecom and IT partners already had strong customer relationships and

trust. "A company with 1,000 employees and a 1,000-extension PBX has around 20 boardrooms," Shrinivas notes. "While PBX is a one-time sale, those boardrooms offer major AV opportunities." With AV and IT converging, IT partners—already dealing in cloud, infrastructure, and collaboration tools—found AV a natural extension.

The strategy first met resistance as partners doubted AV's potential. But after major projects and easy upselling to existing clients, perceptions changed, they already had the relationships; they just needed product know-how."

To make the shift seamless, Avientek poured resources into partner training, bringing them to its experience canter for immersive, hands-on sessions. "Telecom and IT partners already have strong technical foundations," Shrinivas notes. "That's why they pick up AV concepts so quickly."

Building Credibility

Avientek entered India in 2019 with ClearOne, marking the start of its AV distribution journey. Despite COVID-19 delays, it steadily expanded, adding DigiBird, NEC, and later Logitech in 2023, followed by G&D and SMART. Its portfolio now includes leading brands like Chief, Da-Lite, Jupiter, Middle Atlantic, Vaddio, VuWall, Sharp, Soltec, and Infobit , offering a complete AV and UC ecosystem. Today, India's top AV system integrators count Avientek among their trusted partners, underscoring its strong market credibility.

Looking Ahead

As Avientek eyes the future, education emerges as a key focus area "We're witnessing a significant wave of digital transformation in education, and we're committed to being an active part of that journey," says Shrinivas Timmanagoudar. The company is redefining digital learning with interactive and hybrid-ready classrooms.

"Our vision for the next five years is to position Avientek as a global leader in intelligent AV, UC, and Educational Technology ecosystems driving innovation that transforms how people connect, collaborate, and learn."

AI and automation particularly excite him. "From predictive maintenance to real-time audio optimization and intelligent room scheduling, AI is making systems smarter and more efficient. AI-driven analytics can optimize meeting room usage and automate device control, allowing users to focus on collaboration rather than the technology itself."

But it's the integration of AV with smart building systems where he sees massive potential "Imagine a meeting space that adapts automatically to your needs, lighting, temperature, display, and audio all optimized intelligently. That's the future we're building towards."

To maintain its competitive edge, Avientek continuously invests in learning and skill development. "Our team stays abreast of the latest global trends, whether it's AI-driven meeting room automation, immersive display technologies, or networked AV solutions," Shrinivas says. "Innovation and adaptability are part of our DNA."

The company's approach to partner support reinforces this commitment. "Partner success is the cornerstone of our growth. We ensure our channel partners receive comprehensive pre-sales support, training, marketing assistance, and post-sales service."

Enabling Possibilities

Globally, Avientek operates with a growing team across multiple regions, establishing itself as a significant player in the AV, UC, and Educational Technology space.

When asked about his message to the industry, Shrinivas becomes thoughtful. "We're entering an exciting era where technology is reshaping communication and collaboration. At Avientek, we believe success is not about selling products but enabling possibilities. Together, we'll continue driving innovation and value across every market we serve."

It's a message that captures the essence of Avientek's approach, one that has taken the company from an unknown entity to a recognized force in India's AV landscape in just four years. As the industry continues its rapid evolution, Avientek's combination of strategic vision, partner focus, and commitment to innovation positions it well for the next phase of growth. The future of AV, it seems, lies not in boxes and part numbers, but in ecosystems, relationships, and the relentless pursuit of better ways to connect.

Enhancing spiritual journeys

India's first AI-powered command centre at Sri Venkateswara Swamy Temple, Tirupati

Every day, thousands of devotees visit the temple of Lord Venkateswara in Tirumala, which sits atop the Seshachalam Hills, also called the Seven Hills. In September this year, the Tirumala Tirupati Devasthanams (TTD) launched an Integrated Command & Control centre (ICCC) at the Vaikuntham Queue Complex, located at the heart of the temple complex.

Designed to deliver real-time crowd prediction, safety, and cyber resilience across Tirumala, the ICCC consolidates live video feeds, 3D digital twin maps, predictive analytics, and cyber-surveillance for crowd management, safety, and pilgrim experience. AVFx Solutions Pvt. Ltd. was tasked with designing and delivering AV systems for this project. In collaboration with technology partners like Kloudspot and Digital Twin technology, the team delivered an innovative solution that has set a global benchmark for template ecosystems and seamless experiences for pilgrims.

Fostering divine connections

Being one of the most visited pilgrimage sites in the world, the Sri Venkateswara Swamy Temple in Tirupati sees daily pilgrim footfalls of between 50,000 and 1,000,000 devotees. Pramod DP, Managing Director at AVFx Solutions Pvt. Ltd., explains that the main goal was to increase the time worshipers get to spend with the deity from about 1 - 3 seconds to ideally about 30 seconds. "Because of improper crowd management, people were not getting enough time for darshan, even after waiting for one full day in the queue; some were being pushed because of a lack of crowd management. So, the whole idea was to increase the time to a maximum of 30 seconds for each worshiper, and that's been made possible with proper crowd management."

Elevating every step of the pilgrim journey

With features like real-time crowd prediction, 3D congestion visualization, and cyber threat monitoring, the ICCC plays a crucial role in enhancing every step of the worshippers' journey through the temple complex.

To monitor the crowds, previously, the temple

complex used a CCTV-based video system, with cameras installed across various locations. Pramod elaborates: "The complex had around 6000 cameras everywhere connected to the video management system, so there was a lot of data, but it was not being fully utilized to extract any analytics. Today, these cameras and the entire video management system are powered by Kloudspot's AI and digital twins model, ensuring smooth and efficient management of real-time crowd analytics and insights, which enable the operations team to make quick decisions and maintain control". Essentially, the ICCC acts as a central hub providing key insights from the Kloudspot Location Intelligence and Situational Awareness (LISA) platform to multiple departments, including vigilance, police, the Darshan, and the landside team.

Pramod shares a few real-world scenarios. "Based on live location data, the crowd management dashboard creates a heat map indicating crowd density. A red heat map indicates too much crowd, while yellow or orange signifies a moderate level, and green signifies a manageable situation," he says. The cameras across the complex stream live footage with advanced features, such as face detection and recognition. The system also allows

the team to instruct the security guards about which direction the crowd is moving in. "For example, if someone is identified as a potential troublemaker, they can be tracked as they move, and their path can be monitored," he adds.

A state-of-the-art monitoring hub

The centrepiece of the command centre is a Samsung Wall Series IWC Indoor Micro-LED P1.2 video wall, running 419" diagonally, with a resolution of 8320 x 1440 and a brightness of 1000 nits. The facility also features 60 Samsung IPS Panel Gaming 24" monitors that assist teams in monitoring critical dashboards in real-time. A 49" Odyssey OLED G9 monitor is placed in the server room.

"The client wanted a large LED display, so we connected around 60 cabinets in total, which are stacked together to create a cohesive video wall," explains Pramod. The choice of Samsung as the preferred brand was driven by its strong reputation in the market. He also highlights Samsung's micro-LED solution and blue cut technology, which reduces blue light emissions, thereby preventing eye strain. "It also has Black Seal Technology+, which adds to the reliability factor," he adds.

Pramod points out that the Blackbox Windows-based ST-VWP-200 Series video wall processor is central to the functionality of the command centre. "Even though there are multiple modules in Samsung, all these modules are connected to Samsung S-boxes. In total, there are three S-Boxes, each of which controls entire screen. When the three screens need to be mapped as a single wall, the process is managed by the Blackbox video wall processor. The unit can take up to 16 inputs and provide four outputs, but we are only using three outputs as there are only three displays."

One of the distinctive features of the system is the built-in redundancy for both power and network connections. "In case of a failure, the processor can automatically switch to a redundant power supply or network connection. This functionality ensures that the 24-hour application can continue running smoothly," Pramod points out, while elaborating that the system will send alerts in the event of a power or network failure, giving operators enough time to respond, as a redundant port is available and functioning in parallel. The facility also hosts another command room that functions like a server room, where the team can monitor the video wall without entering the command centre; the Blackbox facilitates this monitoring capability as well.

Real-time collaboration

Strategically located next to the command centre, is the conference room, a space that is used for discussions, meetings, and critical decision-making during incidents. This space features a Samsung Flip 85"UHD 4K Touch Display, a Crestron Flex Advanced Video Conference System Integrator Kit for Zoom, and a Yealink UVC86 4K dual-eye tracking camera that ensures that participants can easily join discussions and are fully engaged. The audio experience is powered by five RM-TT Dante Wired Tabletop Array Microphones, and a RM-CR Remote Conference Processor equipped with Dante connectivity, and two Yamaha Dante PoE powered VXL1B-16P speakers to deliver crystal-clear sound throughout the room.

"Content displayed on the command centre's main video wall can be easily shared on the meeting room screens, and remote teams, like the police or security personnel, can join Zoom calls, enabling two-way communication and screen sharing," highlights Pramod, emphasizing how this fosters real-time collaboration and situational awareness.

Seamless Audio

For audio, the command centre is equipped with four Crestron SAROS IC6T-W-T 6.5" 2-way in-ceiling speakers and a Yamaha XMV4140 4-channel amplifier complemented by an Erthpot PC1 Parameter Controller and an Erthpot KEYER 88D audio processing and control system. "We chose this audio solution because Yamaha has a simple package solution called Adecia systems, which bundles POE Powered audio DSP, speakers and table microphones, ensuring all our audio needs are addressed," says Pramod.

Everything operates on a Dante PoE (Power over Ethernet) network, including the 16-column array speakers. Pramod highlights the simplicity of the installation, noting that "there is no external amplifier required. You just need simple CAT6 cables, PoE network switch and once you do the calibration, you're all set. The audio quality was excellent; even the chief minister, who inaugurated the centre, was impressed with it."

Pramod describes the control system. "The setup includes a Crestron 4-Series control system and

several Lightware Tarus boxes for automatic switching. We have two touch panels - one in the command centre and the other in the conference room and have intentionally kept the interface as minimal as possible. Users can manually drag and drop video feeds to override the default settings and view a specific video."

Racing against time

Speaking of challenges, Pramod points out that time was crucial in getting the project ready for the inauguration. He notes that the entire process, from design schematics to detailing plans for all stakeholders and getting final approvals, took about three months, and the actual execution and delivery of the project had to be completed within 15 days. Pramod elaborates: "Our team from Bangalore and Hyderabad travelled on-site and put in a tremendous amount of effort. Madhu Ashwath, our Projects Head, took charge of this critical project along with Vijay Sagadevan, Hareesh Vanka and Saravanan S. We had to determine the power requirements, support needed from the backend to set up the displays, the cable routing, and other related tasks. But, thanks to the team who worked on two shifts, we completed the project in time for the inauguration, including civil work, interior design, networking, glass partitions, and everything."

An innovative approach

When asked about the most unique feature of the ICCC, which is celebrated as India's first AI-integrated pilgrimage command hub, Pramod emphasizes its crowd management solution.

"People are looking at this kind of space in a way nobody else has before," he notes, adding that they already have experience in delivering occupancy intelligence solutions for the corporate sector, and this approach marks a shift in how crowd dynamics are monitored and managed in pilgrimage sites.

He underscores another stand-out feature of this solution: a 90% accuracy level in occupancy intelligence, which is considered healthy for people tracking, and explains how this system was rigorously tested and put on demo before it was implemented: "It was thoroughly checked and then got approved as the clients wanted to verify its accuracy. Many claim to use AI, but accuracy matters, especially when counting people. So, everything is monitored live in real-time with the help of sensors & cameras, ensuring that we maintain more than 90% accuracy levels."

Unlocking possibilities

The ICCC project at Tirumala is a brilliant showcase of the integration of AI and advanced technologies into AV systems, signaling a transformative shift in the industry.

Reflecting on this shift, Pramod shares his perspective: "Earlier, it was purely AV; nobody was talking about integrating with building management systems or command centres like this. It was like: 'the AV folks will come, hook up the displays or video walls, and show us how the content is going to be displayed'. That's all it was."

By harnessing data from sensors and cameras, organizations can address common challenges, like meeting room no-shows, more effectively, he notes. "For example, we are capturing data on no-shows in meeting room bookings. If someone books a meeting room for an hour but only uses it for 15 minutes or doesn't show up at all, the room remains unbookable for others. Earlier, we lacked proper data, but now, with these sensors, we can release the room for booking if no one is present and also identify individuals accountable for these bookings with API integrations and domain-level calendar synchronization," he explains, highlighting that this is some of the new, cool stuff that people are really liking.

In conclusion, Pramod highlights that exciting developments are underway, and the further integration of AV with AI and other advanced technologies will hold the key to innovation and unlocking new possibilities in the AV space.

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Indigenous Innovation

From Scepticism to Market Leadership, The N-LABS Story

In an industry dominated by international brands and scepticism toward Indian manufacturing, Hemal Bhatt, Founder & CEO of N-LABS (Hemona Electroacoustics Pvt Ltd), is rewriting the rules. Hemal has built India's largest pro audio amplifier manufacturer in just four years. With over 1 lakh happy customers and a commanding 50% market share in the professional power amplifier segment, his journey reflects both ambition and deep industry understanding rooted in decades of family legacy.

The N-LABS story begins in the late 1980s when Hemal's father established a rental company in the pro audio space. Young Hemal joined the family business in 2007, gaining invaluable hands-on experience. "We were a rental company first, and through that experience, we faced numerous challenges with different brands and products available in India. That learning curve inspired us to develop better solutions," Hemal recalls.

The entrepreneurial journey took its first major step in 2012 with BRB, a Brazilian speaker brand that the company began importing. At just 17 years old, Hemal formed HVC for the speaker trading business. The pivotal moment came in 2019 with the founding of N-LABS, driven by a core mission: providing exceptional after-sales service in amplifiers. By 2021, when the company committed fully to Indian manufacturing, Hemona Electroacoustics Private Limited was formed as the parent entity.

Manufacturing Excellence

Today, N-LABS stands as India's largest manufacturer of professional power amplifiers, producing thousands of units for the wholesale and pro audio markets. All product designs are developed entirely in-house by Hemal and his team. The commitment to indigenous development extends to hardware components, with even transistors manufactured as OEM materials branded with the N-LABS logo.

Currently, 60% of components are sourced from India and 40% imported. The imported portion includes specialized components like ICs, N-channel MOSFETs not yet manufactured in India, and Dante chips from Hong Kong. "We try to source maximum components locally, but realistically, it will take India another 10 years to achieve 100% indigenous manufacturing capability," Hemal acknowledges.

Despite being registered under the Startup India program, N-LABS has charted its growth path without government financial support, as Production Linked Incentive schemes don't align with the specialized nature of professional audio equipment.

Service as Strategy

What truly differentiates N-LABS isn't just competitive pricing, it's an obsessive focus on after-sales service. The company achieves a remarkable 25-30 minute repair time per product at any service center, making it the fastest in the industry. When an amplifier from 2022 comes in for repair, N-LABS ensures it sounds identical to what customers buy in 2025 through pre-upgrades during service.

Hemal draws a stark contrast with international brands. "Consider an amplifier from a company based in the USA, manufactured in China, sourcing components from different vendors. Indian importers either replace the entire board or struggle because they don't have access to component-level repair." At N-LABS, complete control over design and manufacturing enables component-level knowledge, allowing optimization to 99% efficiency.

Coming from a rental background, Hemal intimately understands customer challenges. "Our goal isn't to earn money from customers, especially rental companies. Our scope is to provide excellent service and reduce their maintenance costs. That's the entire philosophy behind N-LABS."

All amplifiers come with 2-year, 3-year, or 5-year warranties covering both manufacturing defects and user errors. Post-warranty, customers receive

"Our goal isn't to make money off customers, it's to reduce their maintenance costs. Service isn't an afterthought; it's our philosophy."

Hemal Bhatt
Founder & CEO, N-LABS

50% subsidies on spare parts. Last year, N-LABS charged only 10-11 customers for service. The company maintains the highest number of service centers for pro audio repair in India, with a customer in Bangalore able to send a product by bus and receive it back repaired within 30 minutes the same day.

Overcoming Scepticism

When N-LABS entered the market in 2019, scepticism ran deep. Competitors actively worked to undermine the brand, even discouraging dealers not to stock N-LABS products. But exceptional products and service paid off. In 2021, N-LABS established complete manufacturing capability in India within just one year.

The growth numbers are compelling: from 2021-22 to 2022-23, N-LABS achieved 100% growth, followed by 100% year-on-year growth for the next two years. More remarkably, N-LABS has achieved 100% customer retention every person who buys once returns for more.

The distribution network has expanded to over 400 dealers across India. The core team comprises over 18 people, with overall headcount exceeding 50, plus another 75-80 in manufacturing, supported by logistics teams and multiple warehouses nationwide.

Expanding Horizons

N-LABS is now making strategic moves into the installation segment, having formally launched its dedicated installation product range about a year ago. The company is developing EASE files and simulation tools that allow consultants and integrators to predict audio performance accurately, with releases already available and more coming soon.

"We're not pitching for business overnight—this is a long-term play. Within one or two years, I believe we'll see major adoption because everyone is looking for an Indian alternative with excellent service capabilities," Hemal explains.

The company is also pioneering IP-based installation systems in India. N-LABS will launch IP-enabled evacuation systems at ISE Spain for emergency services, installations, and classrooms. Looking further ahead, the company plans to bring Dante AV to India. "Just as there's Voice over IP, there will be Video over IP in the next five years," Hemal predicts.

The Dante Advantage

One of N-LABS' most significant technical differentiators lies in its Dante implementation. All products are Dante certified, but N-LABS has engineered a unique approach: audio and network control run on a single network. Each amplifier comes with a 1G port, eliminating the need for dual networks—a significant advantage for integrators.

While India remains crucial, Hemal is setting his sights on international expansion with offshore offices already established. N-LABS will make its international debut at ISE Spain in 2026, followed by the NAMM Show in the USA and InfoComm Asia, positioning itself as a viable alternative to Chinese manufacturers in global markets.

Strategic Roadmap

Hemal has structured N-LABS' growth into three distinct phases. Phase one, launched in 2021, aimed to capture the pro audio market within three years successfully achieved.

Phase two, which commenced in 2025, focuses on expanding the installation product range and developing products to global standards for export. Phase three, targeted for 2027 onwards, will center on software-based solutions where audio and video operate seamlessly on a single network, with Dante AV manufactured entirely in India.

Looking Ahead

As N-LABS continues its remarkable journey, the company remains grounded in the principles that sparked its initial success: indigenous innovation, obsessive service focus, and deep understanding of customer needs. "The Indian professional audio industry is ready for indigenous innovation. We've proven that with the right focus on R&D, service, and understanding customer needs, Indian manufacturers can not only compete but lead," Hemal reflects.

N-LABS isn't just building amplifiers; it's building an ecosystem where Indian audio professionals have access to world-class equipment with unmatched local support. With international expansion on the horizon, cutting-edge IP and Dante AV solutions in development, and a track record of 100% year-on-year growth, Hemal Bhatt and his team are proving that 'Made in India' can mean 'Best in Class'—and they're just getting started.

Building Tomorrow's Experiences

Inside Qubix Technology's vision

From a small team to 120 professionals, Rhythm Arora, CEO at Qubix, shares how the company has evolved from traditional AV integration to a comprehensive technology solutions provider.

In the heart of Bangalore's bustling tech scene, Qubix Technology has quietly evolved from its humble beginnings in 1984 into one of India's most innovative design-and-build companies. Rhythm's journey with Qubix began long before he officially took charge in late 2011. His first encounter with the industry came at just 12 years old, when he attended Infocom 2003 in Singapore, an early experience that shaped his view of where technology was headed. "I attended my first Infocom when I was 12 years old," he recalls.

What started as a traditional AV business under his father's leadership has grown into something much broader. Today, Qubix describes itself as a company that "designs and integrates technology for audio, video, IT, and now lighting, wherever you live, work, play, pray, we're everywhere."

Perhaps nothing demonstrates Qubix's eagerness to take on challenging projects better than its current flagship: a massive casino ship in Goa. With seven performance stages running 24/7 across five 50,000 square-foot floor plates, the project has taken the team into entirely new territory.

"Being on a ship, there is no possibility to connect to the internet," Rhythm explains. "We had to go through a lot of learning curve to handle satellite communications for entertainment, for sport, for the internet." The team implemented TVRO systems with gyration-based antennas that track satellites even as the ship moves, while ensuring every component meets stringent marine-grade specifications.

The project, in partnership with Harman, represents the future Rhythm envisions for technology integrators. "AV integrators will no longer be AV integrators; we are technology integrators," he states. "Whatever requires technology integration, we want to do it."

While commercial projects dominate their bandwidth, Qubix continues to take on extraordinary residential work. They're currently executing a

five-and-a-half-acre residence with over 100 audio zones and recently completed a project featuring 350-400 automation keypads with thousands of lighting circuits.

Central to Qubix's scaling success is its radical commitment to systematization. "We hate chaos, and we love technology," Rhythm says simply. Every drawing, checklist, and piece of information has been digitized, with recent work running through custom-built in-house apps that evolve with their needs. As per his management philosophy? "Solve one problem only once. If it's a recurring problem, build a system, solve it, move on." This approach has enabled rapid scaling and consistent delivery across multi-city rollouts, with the same experience replicated at 15 locations simultaneously.

Long before artificial intelligence became a buzzword, Qubix was training custom LLMs on their meticulously organized data. Their first implementation targeted support, giving team members instant access to project details, warranty information, and configuration files with "almost zero waiting time."

Their second AI deployment revolutionized design verification by training models on drawings, designs, and BOQs to automatically check and verify technical documentation. "Why we use custom LLMs and not globally available ChatGPT is because those models are trained on everything in the world," Rhythm explains. "Our own models help because we can train them the way we want."

As Qubix prepares to convert its iconic old office into a multi-zone experience center featuring immersive audio, active acoustics, and interactive demonstrations, Rhythm remains pragmatic about long-term planning. "We can only have a vision for 2026, 2027, but definitely 2030 is very far away," he admits, citing the unpredictable pace of technological change.

His vision remains clear nonetheless: "Build better, faster, scale better, scale faster. Our future is just to be ready to adapt to anything that comes our way."

In an industry racing toward convergence—where AV, IT, and lighting blur into a holistic "tech industry", Qubix's combination of systematic process, technological ambition, and unwavering focus on user experience positions them not just to adapt to the future, but to help build it.

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The Next Stage

Why the Nation's Booming Live Entertainment Industry Needs High-Performance Infrastructure to Match Its Ambitions.

By Sudarshan Srinivasan

India's festival and concert landscape has evolved dramatically. No longer just a stop on international tours, the country has become a must-visit destination for global artists while simultaneously nurturing a thriving domestic music scene that often outdraws international acts.

The numbers tell a compelling story. In 2024, India hosted approximately 30,687 live events across 319 cities, with an 18% rise in live entertainment consumption. The market surpassed ₹12,000 crore, driven by roughly 70-80 days of large-scale concerts with over 10,000 attendees per day. This translates to 35 weekends during a concert season that spans just five months—a concentration of activity that highlights both the industry's vibrancy and its constraints.

Prime Minister Narendra Modi recently underscored this potential, citing Coldplay's concerts that contributed over ₹1.72 billion to the economy. His emphasis on infrastructure investment and skill development reflects a growing recognition that India's rich musical heritage and youthful demographics position it to become a global entertainment powerhouse.

The Weather Problem

India faces a unique challenge that separates it from other major concert markets: weather seasonality. Concerts and festivals slow down dramatically after April and remain largely dormant until October, when the season reopens.

Most large-scale concerts take place outdoors, leveraging India's abundant stadiums and makeshift grounds that can be converted into functional venues. But during the monsoon season, outdoor events become impractical, if not impossible. This six-month gap represents an enormous opportunity cost—lost revenue, missed performances, and constrained growth for an industry with surging demand.

The solution is clear: India needs more indoor venues capable of accommodating large crowds year-round. Specifically, the country requires a substantial increase in performance venues and multifunctional convention centers with capacities ranging from 15,000 to 30,000 people.

An Industry at Capacity

Current demand far outstrips supply. Stadium concerts regularly sell out, forcing promoters to add extra show days or increase capacity. Major festivals like Lollapalooza, NH7 Weekender, and Magnetic Fields routinely achieve 100% ticket sell-through, often within minutes or hours of going on sale.

Premium zones, VIP experiences, and platinum passes sell out almost instantly, with general admission following close behind. Mid-sized indoor venues seating 10,000-15,000 face overwhelming demand, particularly for domestic stars like Diljit Dosanjh, AP Dhillon, Shreya Ghoshal, and Sunidhi Chauhan.

The premium ticket category alone saw over 100% year-on-year growth, indicating strong appetite for unique event experiences. Attendees increasingly seek VIP packages, curated zones, and exclusive benefits—amenities that well-designed indoor venues can deliver consistently.

Tier-2 cities have emerged as viable concert markets, with ticket sell-through rates exceeding 85% when included in multi-city tours. This geographic expansion accelerates broader access to the concert economy while generating economic boosts for local tourism, hospitality, food, and retail industries.

India's 2025 concert season set records not only for gross attendance and revenue but also for average sell-through rates, which consistently hovered at or near capacity for headline acts. These metrics place Indian live events among the most in-demand in Asia.

What Makes a High-Performance Venue?

The need for state-of-the-art indoor venues stems from evolving audience expectations, the increasing complexity of modern performances, and the rising presence of acts, both domestic and international that require world-class production standards.

Acoustic Excellence

Venues must provide clear, balanced, and distortion-free sound across all seating areas. Unlike outdoor spaces, indoor venues require meticulous acoustic design to manage reverberation, reflections, and sound isolation. Modern facilities should integrate variable acoustics, carefully designed room geometry, and advanced acoustic treatments to deliver consistent sonic experiences.

Cutting-edge venues can deploy virtual acoustic systems and immersive audio technologies that deliver spatial sound, immersing audiences in three-dimensional audio environments. Concerts demand powerful, flexible sound reinforcement systems capable of handling broad dynamic ranges. Leading venues utilize line-array speaker systems, subwoofers, and digital signal processing to cover large audiences evenly with excellent sonic fidelity, enabling artists to replicate studio-quality sound and create impactful live dynamics.

Immersive Visual Experiences

Multi-sensory engagement extends beyond audio. High-performance venues should integrate LED walls, intelligent lighting rigs, projection mapping, and augmented reality elements to elevate artistic performances. These immersive components enhance emotional connection, narrative storytelling, and audience participation is transforming concerts from passive listening experiences into unforgettable events.

Technical Flexibility and Adaptability

Perhaps the most critical characteristic of a high-performance indoor venue is its technical flexibility. Facilities must offer modular staging, rigging, and acoustics adaptable to diverse genres and show sizes, from intimate acoustic sets to large-scale EDM performances.

With increasing domestic and international tours featuring elaborate production designs, venues must accommodate complex lighting, audio, and video setups. This flexibility reduces setup times, improves operator safety, and ensures venue compatibility across different production requirements.

Equally important is the ease of teardown and reconfiguration. Most artists and their technical crews have specific preferences, and local vendors are often brought in to provide and deploy equipment. In such cases, rigging points and other infrastructural requirements must be in place to ensure venue adaptability and smooth setup processes.

The Economic and Cultural Imperative

High-quality indoor venues position India as a competitive global live entertainment destination. They attract marquee performances, boost ticket sales, create job opportunities in venue operations and technical services, and stimulate ancillary industries such as travel, hospitality, retail, and food services.

Beyond economics, immersive venues provide platforms to preserve and showcase India's diverse cultural expressions and music traditions with modern production values. They serve as bridges between heritage and innovation, allowing traditional art forms to reach new audiences through contemporary presentation.

The infrastructure gap represents more than just lost revenue during monsoon months,it's a brake on India's emergence as a year-round entertainment hub. As the concert economy matures and audience expectations rise, the country's ability to deliver world-class experiences will increasingly depend on purpose-built, technologically advanced indoor venues.

Looking Forward

India's concert scene is booming, and the demand shows no signs of slowing. But to sustain this momentum and capitalize on its full potential, the country must invest in indoor venues equipped with cutting-edge technology and immersive capabilities. These facilities are essential for delivering exceptional acoustic performances, maintaining technical flexibility, and creating the unforgettable multisensory experiences that international artists and their audiences expect.

Investing in high-performance indoor venues isn't just about weatherproofing the concert season—it's about cementing India's reputation as a global entertainment powerhouse, expanding opportunities for artists and audiences alike, and ensuring that the concert economy can thrive year-round across the entire country. The infrastructure to support India's musical ambitions must match the scale of its talent and the enthusiasm of its audiences. The time to build is now.

From Coldplay's record-breaking shows to sold-out performances by Diljit Dosanjh, India's live entertainment sector is experiencing unprecedented growth. But as the concert economy surges past ₹12,000 crore, a critical infrastructure gap threatens to limit this momentum: the country desperately needs more high-performance indoor venues. Without them, India risks losing both revenue and relevance during the six-month monsoon hiatus that currently brings the concert season to a grinding halt.

Sudarshan Srinivasan
Co-founder and Director at LEWMINADIO Technologies is a Consultant, Educator, and System engineer.

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Mission Control

How Command Centres Have Become Strategic Instruments

Once defined by rows of monitors and the hum of CRT screens, the command and control centre has evolved into the very core of modern decision-making. From defence missions to city grids, from IT networks to corporate campuses, these spaces are now synonymous with real-time awareness and operational resilience.

In today's world of connected systems and high-speed data, command centres have become strategic instruments, turning raw information into informed action. They don't just see the world; they sense it. Whether it's rerouting a flight network, monitoring a cyber-attack, or coordinating emergency response, these centres have redefined how institutions stay in control amid complexity.

The early command centers were functional with large rooms lined with independent monitors and analog communication tools. But as data streams multiplied, so did the need for synthesis. Today's command environments fuse architecture, data, and interaction, creating spaces that think as much as they display.

The foundation of the modern command centre lies in situational awareness, integrating feeds from hundreds of cameras, sensors, and communication networks into one unified platform. The focus is not on showing more data, but on showing the right data in the right way. The challenge lies in presenting this overwhelming amount of information in a way that enables quick, accurate decision-making rather than creating confusion.

What was once reactive has become predictive. Artificial intelligence and analytics tools now

allow teams to anticipate incidents rather than merely respond to them. These are no longer watch rooms, they are decision engines that help organizations stay ahead of problems before they escalate into crises.

The sophistication of technology has been matched by the rise of human-centric design. The control room is no longer a dark, fatiguing bunker but an ergonomically tuned environment that sustains focus and efficiency over 24-hour cycles.

"Two decades ago, command centres ran on rear-projection modules, massive enclosures with projectors at the back. That was state-of-the-art during Chandrayaan-2," he recalls. "Now it's all 4K LED walls and LFD arrays, which are modular and seamless."

Raguvaran
Founder and Principal Consultant at MetaHive Design Consulting

Every aspect, from tiered seating geometry and eye-level calibration to lighting balance and acoustic absorption, is designed to ensure precision and comfort. The result is a setting where teams can act with speed and clarity, even under immense pressure.

As design consultants emphasize, a command centre succeeds when it amplifies human judgment, not when it overwhelms it. Technology and architecture must operate as one coherent organism, both intelligent and intuitive.

Behind the displays and bright LED walls is a sophisticated network of systems. High-speed servers, redundant processors, and network matrices form the foundation. These backend systems must handle massive data throughput while maintaining zero-tolerance for failure.

The shift to AV-over-IP has revolutionized these systems. Unlike traditional hardwired setups, IP-based networks allow seamless scalability, letting integrators route hundreds of feeds over a unified digital fabric with negligible latency. Traditional matrix switchers had physical limitations, you could only add so many input and output cards within a fixed frame. But with network-based routing, the possibilities become virtually unlimited.

War rooms and collaboration zones now extend from the main control floor, enabling teams to isolate crises, conduct reviews, and deploy rapid responses, all without interrupting ongoing operations. Resilience is designed in: power redundancy, failover systems, and data backups ensure that even in failure, the command never falters. This is not just technology, it's continuity by design.

For Raguvaran, Founder and Principal Consultant at MetaHive Design Consulting, command centres are a blend of precision and purpose. Having designed mission-critical facilities for ISRO, ADA, and Wipro, he has watched the technology curve transform dramatically.

"Two decades ago, command centres ran on rear-projection modules, massive enclosures with projectors at the back. That was state-of-the-art during Chandrayaan-2," he recalls. "Now it's all 4K LED walls and LFD arrays, which are modular and seamless." But for him, the evolution isn't just visual, it's architectural. "We design for use-case, not just aesthetics. If the client needs to monitor hundreds of camera feeds, a well-calibrated LFD setup may outperform an LED wall."

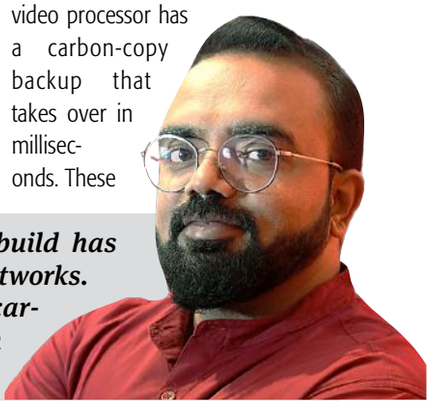
Raguvaran also highlights the AV-over-IP revolution, "Traditional matrices had physical limits. With IP-based routing, scalability is infinite. A thousand inputs can flow through a network switch instead of a hardware cage." He explains the practical benefits: "Instead of a large matrix with limited slots, you can leverage network switches. It's unlimited scalability and costs about half of traditional systems. Plus, for extension, the encoders act like extenders themselves, sending signals via IP through CAT6 cables." The beauty of this system is that a simple CAT6 cable can extend signals up to 100 meters, and for longer distances, fiber optic options are available.

Raguvaran recollects that "during Chandrayaan-2, ISRO's command centre still used rear-projection technology. Those were 130-inch modules, state-of-the-art for their time. Now everything is modular, seamless, and far more efficient." He cautions, though, against blind adoption. "Technology has to justify its purpose. A command centre must be designed for decision-making, not for show. I've done over 200 command centres, and I've seen clients reverse their decision on LED walls after understanding the use case. If you need to see more images at once, LED walls aren't always the right solution."

Raguvaran emphasizes the importance of understanding the actual requirements: "The biggest mistake is designing without knowing how critical the information is and what kind of decisions will be made. That defines the entire scale of your command centre. Even if a client has a big budget, it doesn't mean they need an LED wall, as it might be the wrong solution considering the functionality against the lavish looks."

Looking ahead, he sees the rise of virtual command spaces: "Decision-makers can soon access their command wall remotely, interactively, without stepping into the room. You can bring all your feeds into a simple desktop screen virtually. That's the next frontier."

Pramod DP, Managing Director at AVFx Solutions, brings the integrator's perspective, ensuring what's designed actually delivers in the field. "The biggest challenge," he explains, "is understanding what the client really needs. Many start without clarity, so we guide them through demos until they see how a command system works, by educating them and giving multiple options until they understand what they actually want." For him, the key is redundancy, the silent hero of reliability. "Every mission-critical centre we build has dual power, dual processors, dual networks. Even the video processor has a carbon-copy backup that takes over in milliseconds. These



"Every mission-critical centre we build has dual power, dual processors, dual networks. Even the video processor has a carbon-copy backup that takes over in milliseconds."

Pramod DP
Managing Director at AVFx Solutions

command centres have to run 24 hours without any interruption. Any downtime costs the users heavily, so we go for redundancy in everything possible."

Pramod sees the future in 10-Gig SDVoE-based AV-over-IP systems: "They merge video, KVM, and USB control into a single network fabric. That's simplicity meeting scalability. Everything, video, keyboard, mouse, USB peripherals, is captured in one single box at 10 gigabits. This is something that's really booming right now."

The technology advancement has been remarkable. From handling basic video feeds, systems now process 4K content with high frame rates, requiring sophisticated network infrastructure. "An uncompressed 4K video feed requires 18 Gbps of bandwidth," Pramod explains. "When you're dealing with hundreds or thousands of camera feeds, the network infrastructure becomes critical. But with compression technologies and smart routing, we can manage thousands of feeds efficiently."

He believes that clients now recognize command centres as operational investments. "Earlier, people were hesitant to invest much in command centres. But now people understand the importance of having a large screen with data. You cannot put all that data on a small screen, and multiple people cannot use it effectively. People are understanding the need, and that's why this is a growing space."

According to Dhiraj Kumar, Project Head at Multee Proe India, the momentum for high-end command centres in India has never been stronger. "It's becoming a mandatory infrastructure for every large organization across IT, government, military, transportation, and enterprise," he notes.

"During a crisis, a command centre becomes the single point of truth. Integrated audio-video systems and shared data walls create collaboration between departments, improving clarity and action. arrays, which are modular and seamless."

Dhiraj Kumar
Project Head at Multee Proe India

Dhiraj believes that the core value of a command centre lies in its unification of information. "It integrates data from sensors, cameras, communications, and databases into one cohesive platform. This helps reduce information overload and gives decision-makers real clarity. Real-time dashboards and visualizations enable quick understanding of complex situations, helping people focus on what matters most."

For him, these environments are not just about visibility, they're about coordination. "During a crisis, a command centre becomes the single point of truth. Integrated audio-video systems and shared data walls create collaboration between departments, improving clarity and action. Multiple departments can work together in one space, physically or virtually, and that improves teamwork tremendously."

Dhiraj stresses that modern clients now seek technological convergence, tying together security, logistics, IT, IoT, GIS, and emergency systems into one interface. "Customers are looking at integration of technology with their existing work areas. The proposed command centres can be integrated with multiple working platforms and bring them into a single command interface. This reduces replication of data and ensures consistency of information across the organization."

He also emphasizes the security architecture behind these systems. "Centralized monitoring enhances threat detection. Secure networks and access controls protect sensitive data and mission-critical operations. These centres are designed with redundancy, backup power, and failover systems to ensure continuous operation during a crisis, whether cyber, physical, or operational."

As organizations scale, he sees the rise of cloud-based, remotely accessible command centres that offer both daily operational insight and long-term strategic intelligence. "Modern command centres support cloud-based or remote operation, allowing decentralized teams to connect securely. Scalable systems grow with organizational needs. A world-class command centre supports both daily operations and long-term strategic planning."

Closing Note

From projection modules to 4K video walls, from manual oversight to AI-driven foresight, the command and control centre has transcended its origins. It is now the architectural embodiment of awareness, a space where design, data, and human insight converge.

What emerges from these conversations is a clear truth: technology alone does not make a command centre successful. It's the thoughtful integration of use-case understanding, redundant architecture, and human-centric design that creates spaces capable of making critical decisions under pressure.

Whether it's Raguvaran's emphasis on purpose over aesthetics, Pramod's focus on bulletproof reliability, or Dhiraj's vision of unified intelligence, all three perspectives converge on one principle: a command centre must serve the decision-maker first, rather than looking impressive.

As technology continues to evolve—with virtual interfaces, cloud connectivity, and AI-driven analytics—one truth endures: the strength of any organization lies in its ability to see clearly, decide wisely, and act swiftly. That is the very promise that every command centre fulfills

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Future-Ready Video

How SDVoE Eliminates the Limitations of Traditional Matrix Switchers

The professional audiovisual industry is at a turning point. For decades, AV professionals have relied on purpose-built hardware HDMI matrix switchers, HDBaseT extenders, and proprietary distribution systems to move video signals from point A to point B. These solutions served their purpose well, but as 4K resolution becomes prevalent and expectations for image quality reach new heights, the limitations of traditional infrastructure have become impossible to ignore.

Enter Software Defined Video over Ethernet, or SDVoE a technology that is fundamentally rewriting the rules of professional video distribution. Built on standard 10-Gigabit Ethernet(10GbE) networks, SDVoE represents more than just another transmission protocol. It signals a paradigm shift in how we conceive, design, and deploy AV systems, dissolving the boundaries between dedicated hardware and intelligent, networked infrastructure.

Why 10GbE Matters

SDVoE is an open standard enabling uncompressed 4K video, audio, and control data to extend across standard 10-Gigabit Ethernet networks unlocking capabilities legacy systems cannot match.

The 10GbE bandwidth is critical. Uncompressed 4K video at 60Hz with 4:4:4 chroma subsampling and HDR demands approximately 18 gigabits per second. Traditional HDMI handles this point-to-point over limited distances. HDBaseT extends reach but introduces compression. SDVoE delivers this bandwidth over network-grade cabling while maintaining pixel-perfect fidelity and sub-100-microsecond latency.

This zero-compression quality and near-instantaneous switching creates previously unattainable possibilities. Radiologists confidently review high-resolution scans, knowing no diagnostic detail is lost, Broadcast directors switch between 4K feeds without visual lag, Corporate presentations display with full color accuracy and clarity.

Beyond signal quality, SDVoE's true power lies in scalability. Unlike traditional matrix switchers

with fixed configurations, SDVoE systems are inherently flexible. The "matrix" is the network itself. Adding capacity means deploying additional endpoints and switches, not replacing entire systems. This architectural flexibility aligns perfectly with dynamic enterprise needs where AV requirements evolve continuously

The AV-IT Convergence Accelerates

Perhaps SDVoE's most significant implication is accelerating AV and IT convergence. For years, these disciplines operated separately AV on dedicated cabling, IT managing data networks. This created inefficiencies, duplicated costs, and limited integration.

SDVoE fundamentally changes this. By running AV over standard Ethernet infrastructure, it enables true convergence. Video, audio, control, and data coexist on unified networks managed through common IT practices, bringing centralized management, reduced cabling complexity, and leveraging existing network investments.

For IT administrators, this means applying familiar tools managed switches, VLANs, multicast routing to AV distribution. For AV professionals, it demands new competencies: network fundamentals, IP addressing, QoS configuration, and bandwidth management. The best integrators bridge both worlds, speaking fluently in AV specifications and network architectures.

This convergence is particularly visible in Asia-Pacific markets, where infrastructure development and smart building initiatives create fertile ground for SDVoE adoption. In India, corporate campuses, government command centers, and airports increasingly specify SDVoE-based systems demanding reliability, scalability, and future-readiness.

Beyond Simple Switching

SDVoE's software-defined nature enables sophisticated video processing that traditional hardware struggles to match. Modern systems perform multi-view layouts, video walls, scaling, cropping, and real-time layering all through software rather than dedicated hardware.

This transforms system economics. Instead of separate scalers and processors, integrators deploy general-purpose endpoints and enable features through software licensing. This reduces upfront costs and creates upgrade paths without equipment replacement. Systems gain new capabilities through software updates future-proofing unimaginable with traditional architectures.

In control rooms, operators dynamically reconfigure displays and create custom layouts without technical intervention. Retail environments distribute content across hundreds of screens with individualized scaling. Educational spaces adapt between lecture capture, multi-source presentation, and remote participation seamlessly.

The Economic Equation

SDVoE may require higher upfront investment, but the cost advantages become clear in large-scale deployments and long-term use. Traditional matrix switchers impose hard scaling limits. Expanding capacity often means replacing entire chassis or adding expensive blade modules. SDVoE systems scale incrementally—each new endpoint requires only an encoder or decoder and network ports. In large deployments, manufacturers estimate infrastructure cost reductions of up to 50 percent compared to conventional approaches.

SDVoE systems leverage commodity networking hardware that benefits from continuous IT industry cost reduction. As 10GbE switches become increasingly affordable, economic advantages strengthen. Standard Cat6A or fiber cabling further reduces costs and simplifies maintenance.

For integrators, this creates compelling value propositions in projects with growth potential. The message is clear: invest in intelligent infrastructure that adapts, not fixed hardware that constrains.

Current Challenges

Despite its advantages, SDVoE adoption requires confronting practical challenges. The need for robust IT infrastructure cannot be overstated. These systems demand 10-Gigabit managed switches with proper multicast support, VLAN segmentation, and QoS configuration. Network stability directly impacts AV performance, making collaboration between AV and IT teams not just beneficial but essential.

Bandwidth management requires careful planning. While a single 4K SDVoE stream consumes roughly 10Gbps, networks must accommodate multiple simultaneous streams, control traffic, and other data. This necessitates thoughtful network architecture, often employing fiber backbones and strategic switch placement to avoid bottlenecks.

Training and skill development are important considerations. AV professionals need to learn networking basics, including concepts like IGMPv3, spanning tree protocols, and network latency. On the other hand, IT teams must understand AV-specific needs like latency sensitivity and consistent data streams. Successful SDVoE systems require AV and IT teams working together.

Road Ahead

Looking forward, SDVoE's evolutionary path is closely tied to network technology advancement. Current 10GbE infrastructure handles 4K beautifully, but 8K resolution quadrupling pixel counts will demand significantly more bandwidth. Uncompressed 8K at 60Hz with full color depth approaches 48Gbps, pushing well beyond 10GbE capabilities.

This is driving interest in 25-Gigabit and 40-Gigabit Ethernet infrastructure. These higher-speed networks are already deployed in data center environments and are gradually becoming viable for AV applications. SDVoE's software-defined architecture positions it perfectly for this transition the same fundamental protocols and control systems can scale to higher bandwidth networks as they become cost-effective.

High frame rate video, immersive formats, and augmented reality applications will further drive bandwidth demands. The industry is also exploring more efficient coding techniques within the visually lossless paradigm, potentially using sophisticated algorithms that maintain perceptual perfection while reducing bandwidth requirements slightly.

The flexibility inherent in SDVoE's design means these advancements can be incorporated without fundamental architectural changes. Systems designed around SDVoE principles today can evolve to support tomorrow's requirements through network upgrades and software enhancements rather than complete replacement.

The New Era

The rise of SDVoE represents more than technological evolution, it signals a fundamental reconceptualization of what video distribution systems can be. The transition from physical matrix switchers to intelligent, network-based signal orchestration mirrors the broader digitalization transforming every industry.

For system designers and integrators, this demands new thinking. Success requires moving beyond traditional AV expertise to embrace network engineering, software configuration, and IT collaboration. Those who make this transition position themselves as invaluable partners capable of designing systems that truly align with modern organizational needs.

For end users, SDVoE promises systems that don't just meet today's requirements but adapt to tomorrow's innovations. The ability to scale gracefully, upgrade through software, and integrate seamlessly with broader IT infrastructure represents genuine future-proofing in an industry where technological obsolescence is a constant threat.

As we move deeper into the 4K era and toward 8K and beyond, SDVoE stands at the forefront of professional AV not simply as a technology, but as a vision of what becomes possible when video, data, and control converge into a single, seamless, uncompromised network. The revolution is here, and it's traveling over Ethernet.

The Reality Behind the Illusion

Anamorphic 3D, When technology meets artistry, the impossible becomes visible

This is the power of Anamorphic 3D—a technology that doesn't just display content, but rewrites the rules of visual engagement. It transforms static architectural surfaces into dynamic storytelling canvases, turning everyday spaces into theaters of wonder where brands can forge deeper, more memorable connections with their audiences.

Whether deployed on towering urban billboards or integrated into sophisticated corporate experience centers, anamorphic installations represent a fundamental shift in how we think about digital communication—moving beyond traditional "screen viewing" to create shared moments of astonishment that linger long after the experience ends.

This isn't science fiction. It's happening right now in Mumbai's bustling commercial hubs, Delhi's premier business districts, and Bengaluru's dynamic urban corridors. What appears to be holographic magic is actually a sophisticated fusion of audiovisual technology, precision engineering, and creative innovation that's revolutionizing how brands connect with metropolitan audiences across India.

Beyond the Smoke and Mirrors

Anamorphic 3D, often dubbed "naked eye 3D," represents a fascinating convergence of ancient artistic techniques and cutting-edge display technology. The concept draws its roots from anamorphosis—a Renaissance art technique where images were deliberately distorted to appear correct only from a specific viewing angle. Think of those famous skull paintings that revealed their true form when viewed from the side.

Today's digital interpretation applies this same principle to LED displays, creating content that appears impossibly three-dimensional when viewed from the optimal vantage point. The secret lies not in revolutionary display hardware, but in the meticulous craft of content creation and the precise science of viewing geometry.

The technology isn't actually creating 3D content—it's exploiting our visual perception system's assumptions about depth and perspective. When done correctly, the brain fills in the gaps and creates the illusion of dimensionality.

The Technical Symphony

The Canvas

While the visual effect may seem magical, the foundation remains firmly rooted in advanced LED technology. The most effective installations utilize fine-pitch LED panels with pixel densities between 1.2mm and 2.5mm, ensuring crisp detail even at close viewing distances. Brightness levels must reach 4000-6000 nits for outdoor installations, with HDR capabilities essential for creating the dramatic contrast that sells the depth illusion.

The screen geometry plays a crucial role. L-shaped or wraparound corner installations have become the gold standard, providing dual planes of perspective that anchor the 3D effect. These configurations allow content to appear to "break free" from one surface and continue onto another, dramatically enhancing the sense of dimensional movement.

The Art

Creating effective anamorphic content requires a complete reimagining of traditional 3D design workflows. Artists begin with standard 3D modeling software—Maya, Blender, Cinema4D—but then embark on a complex process of intentional distortion.

Every element must be stretched, skewed, and repositioned according to precise mathematical calculations. This involves essentially reverse-engineering how the human eye and brain will

interpret the image from a specific location—a process that's part science, part art, and part educated guesswork.

The process involves creating virtual mock-ups of the actual installation environment, complete with accurate measurements of viewing distances, angles, and pedestrian flow patterns. Content is then rendered at ultra-high resolutions—often 4K or 8K—to maintain quality when played back through professional media servers like Disguise or Christie Pandoras Box.

The Business Case

Anamorphic 3D serves distinctly different purposes across deployment contexts, each with its own business rationale and investment justification.

Outdoor Advertising represents the technology's most dramatic application, commanding premium investments that reflect its exceptional impact—with brands allocating substantial budgets for prime media placements and cinematic content production to create viral marketing moments. Product launches, entertainment promotions, and seasonal campaigns leverage spectacular 3D sequences that generate massive organic social media reach, with single installations accumulating millions of views across platforms.

Corporate Environments tell a different story. Leading global corporations integrate anamorphic displays into headquarters lobbies not for product marketing, but as brand statements. These installations typically feature artistic content—abstract particles, dynamic data visualizations, natural elements—positioning companies as innovative and future-forward. The business case centers on brand differentiation and creating memorable visitor experiences rather than direct ROI.

Trade Shows offer the most tactical corporate application, where companies use anamorphic displays to attract booth traffic and stand out in crowded exhibition halls, creating photo opportunities that extend engagement beyond the event.

Retail Interiors blend product marketing with experiential design, highlighting new launches while creating shareable customer moments that amplify brand reach through user-generated content.

The investment reality remains substantial across all contexts. Content creation costs vary dramatically based on complexity, with high-resolution productions requiring render farms and extended timelines. Success depends on aligning deployment with clear objectives—whether viral reach, brand positioning, or experiential engagement—rather than treating anamorphic 3D as a universal display solution.

Challenges and Solutions

Despite compelling possibilities, anamorphic 3D installations present unique challenges requiring careful consideration.

While traditional LEDs tolerate minor alignment imperfections, anamorphic displays demand pixel-level accuracy. Millimeters of misalignment destroy the illusion, making tolerances far stricter than conventional projects.

Content development requires specialized expertise and extended timelines. Unlike standard video, anamorphic sequences are custom-designed for specific installations, making them significantly more expensive and requiring careful budget planning.

The narrow viewing angle means anamorphic 3D isn't suitable everywhere. Integrators must assess site conditions and audience flow before recommending this technology. Investment only makes sense where congregation points align with optimal geometry.

Maintenance complexity demands comprehensive service agreements. Any panel failure or alignment drift catastrophically impacts the visual effect. However, corporate installations offer controlled environments with predictable lighting, consistent visitor flow, and integration opportunities.

The Technology Evolution

While current anamorphic technology relies primarily on content manipulation, emerging innovations promise to address many inherent limitations and expand possibilities for both outdoor and corporate applications.

Light field displays are beginning to offer true volumetric imagery with wider viewing angles, potentially eliminating the "sweet spot" restriction that limits current installations. This advancement could make anamorphic 3D viable in spaces with multiple viewing positions, significantly expanding its applicability in corporate environments.

AI-assisted content creation tools are streamlining the complex distortion calculations required for anamorphic mapping, reducing production timelines and costs while improving precision. These developments make the technology more accessible to a broader range of clients and project budgets.

Interactive integration systems now use sensor networks to adapt content based on audience size, movement patterns, or environmental conditions, creating more dynamic and engaging experiences. Corporate installations particularly benefit from these capabilities, allowing content to respond to meeting schedules, visitor demographics, or business presentations.

Hybrid reality platforms represent perhaps the most intriguing development, combining anamorphic displays with augmented reality overlays. This approach allows viewers to experience enhanced content through smartphones while maintaining the naked-eye spectacle for general audiences, creating multi-layered engagement opportunities that serve diverse visitor needs.

Bridging the Gap

ICT System Integrators Entering the AV Space, the Opportunities and Challenges

By Ben Johnson

In today's rapidly converging digital landscape, the clear boundaries between Information and Communication Technology (ICT) and Audio-Visual (AV) systems are fading fast. With the rise of IP-based AV solutions, cloud collaboration platforms, and the increasing demand for smart, connected environments, many ICT system integrators are eyeing the AV industry as a natural next step in their evolution.

But is it a seamless transition? While the integration of ICT and AV presents clear strategic advantages, it also comes with a unique set of challenges that can't be overlooked.

AV is no longer just projectors and speakers. Today's landscape encompasses digital signage, unified communication platforms, immersive experience rooms, hybrid meeting spaces, and smart building control systems. As organizations invest heavily in collaboration technologies and digital experiences, ICT integrators see a growing market ripe for expansion and diversification of revenue streams. This evolution represents a fundamental shift in how we perceive audiovisual technology, transforming it from a simple presentation tool into a comprehensive ecosystem of connected experiences.

The foundation of modern AV systems is built on the backbone of IT infrastructure. AV over IP, networked audio, remote device management, and cloud-based control platforms all speak the familiar language of ICT professionals. This technological convergence significantly lowers the entry barrier for ICT firms, who already possess deep expertise in networking, infrastructure, and cybersecurity—all critical components in contemporary AV deployments. The shared technical DNA between these disciplines creates a natural bridge for expansion.

ICT firms often enjoy long-standing trust and established relationships with enterprise clients. Adding AV services to their portfolio allows these companies to offer more holistic, turnkey solutions that span from structured cabling to networking, from security systems to digital collaboration platforms—all delivered under one roof. This comprehensive approach not only strengthens existing partnerships but also increases the lifetime value of each client relationship.

As digital transformation projects continue to grow in scope and complexity, clients are increasingly seeking single-vendor solutions to simplify procurement processes, reduce coordination complexity, and ensure clear accountability. An ICT integrator who also delivers professional AV services becomes a true one-stop shop—a powerful differentiator in an increasingly crowded marketplace. This positioning allows companies to command premium pricing while reducing competitive pressure.

The Challenges

Despite the apparent synergies, AV remains a highly specialized discipline where success hinges on a unique blend of technical expertise and design artistry. The transition isn't as straightforward as many ICT professionals initially assume.

While ICT teams excel in IP networks, virtualization, and system security, AV systems demand expertise in acoustics, display calibration, signal flow, DSP programming, and human-centered UI/UX design. Without proper training and industry certifications such as AVIXA's CTS or vendor-specific programs—ICT firms risk delivering subpar AV experiences that fail to meet client expectations and damage their reputation in this new market segment.

Acoustics, in particular, represents one of the most commonly overlooked aspects, not only by ICT integrators but even by some AV professionals. Yet it is absolutely foundational to achieving high-quality audio performance. Poor room acoustics cannot be "fixed" by hardware alone, regardless of how advanced the microphones, speakers, or digital signal processors may be. Reverberation, echo, and ambient noise drastically affect speech intelligibility and overall meeting effectiveness. Unfortunately, acoustics is often ignored in favor of more visible or seemingly technical components, leading to disappointing results despite significant investment in premium equipment.

The reality is that being an AV or ICT integrator or consultant does not automatically mean that acoustics is well understood. This specialized subject requires dedicated concentration and expertise to build truly exceptional user experiences.

AV projects operate within a fundamentally different ecosystem compared to traditional ICT deployments. These projects often intersect with architecture, interior design, construction timelines, and human factors engineering. This complex environment operates quite differently from the more modular, remote-friendly nature of typical ICT implementations. AV installations require significantly more on-site presence, coordination with various trades and contractors, and a deep understanding of physical space constraints and opportunities.

Post-deployment support for AV systems is inherently hands-on and user-facing, involving device calibration, control system updates, programming modifications, firmware management, and on-site troubleshooting. These requirements represent areas where traditional ICT support teams may lack both the necessary expertise and bandwidth to deliver the level of service that AV clients expect and demand.

A Roadmap for Success

For ICT system integrators looking to successfully enter the AV space, success lies in making strategic investments and embracing cultural adaptation. The path forward requires careful planning and execution across several key areas.

Investing in talent represents the most critical success factor. Companies must either hire experienced AV designers, engineers, and field technicians, or commit to comprehensive upskilling of existing staff. This includes encouraging CTS certifications and ongoing professional

development to ensure teams stay current with rapidly evolving technologies and best practices.

Starting with hybrid projects provides a natural entry point by focusing on converged domains like video conferencing solutions (Zoom Rooms, Microsoft Teams Rooms), digital signage over IP networks, or unified communications platforms where ICT and AV expertise naturally intersect. These projects allow teams to build confidence and capabilities while working within familiar technological frameworks.

Building strategic vendor alliances with AV manufacturers and distributors provides access to essential training programs, design support resources, and competitive pricing structures that are crucial for project success and profitability. These relationships also provide ongoing technical support and product roadmap insights.

Adopting an AV design mindset requires embracing the human element that distinguishes AV from traditional ICT work. AV is not just about technical functionality—it's fundamentally about creating experiences, ensuring usability, and facilitating meaningful human interaction. This mindset shift often represents the most challenging aspect of the transition for technically-oriented ICT professionals.

Piloting before scaling offers a prudent approach by considering subcontracting or co-delivering initial AV projects with established AV partners before building full in-house capabilities. This strategy reduces risk while providing valuable learning opportunities and market insights.

Conclusion

The convergence of AV and ICT isn't merely a passing trend it represents the future of integrated technology environments. For ICT integrators, stepping into the AV space opens exciting new doors and revenue opportunities, but it also demands genuine respect for the craft, culture, and inherent complexity of professional AV integration.

Having personally handled both ICT and AV projects throughout my career, I can confidently say that while the technical foundations may overlap significantly, the approach, execution methodology, and client expectations are vastly different. AV is not simply a subset of IT it's a distinct discipline with its own standards, practices, and success metrics.

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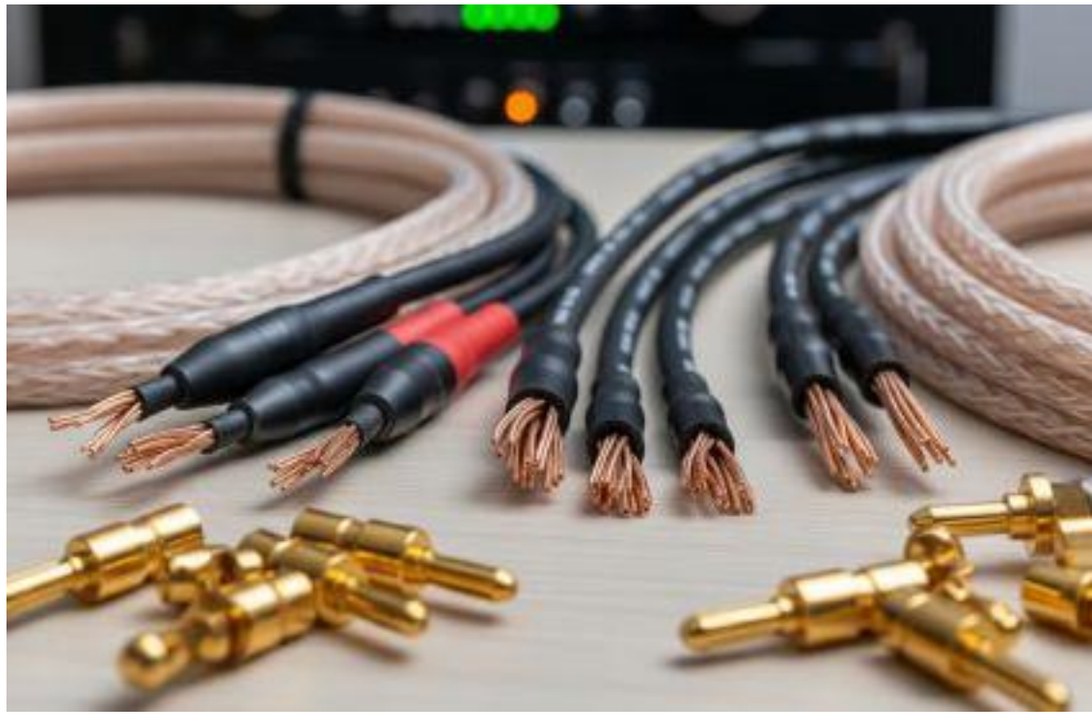
Technical Guide

Speaker Cables & Best Practices in the Hospitality Sector

By Samir Ahluwalia

In the hospitality world, sound is often the unseen detail that defines guest experience. A welcoming lobby, a vibrant restaurant, or a crystal-clear announcement in a banquet hall—each relies on audio that is reliable, balanced, and unobtrusive. Yet, while loudspeakers and amplifiers get the spotlight, one component often overlooked can make or break a system: the speaker cable.

This article explores why constant-voltage (70V/100V) systems dominate hospitality environments and how proper cabling and design practices ensure performance, reliability, and scalability.



Why Constant-Voltage Rules Hospitality

Audio distribution comes in two main types

- Low-Impedance (Low-Z): Standard in home hi-fi and live sound (4–8Ω). These systems excel at short distances but suffer heavy losses over long runs or when feeding many speakers.
- High-Impedance (Hi-Z): Also called constant-voltage (70V/100V), this design steps up amplifier output voltage while reducing current. The result: long runs with minimal loss, simple parallel wiring, and easy scalability—ideal for sprawling hotels, resorts, and conference centres.
- In North America, 70.7V became standard due to safety codes limiting exposed systems below 100V peak.
- In Europe and beyond, 100V dominates. For the same power, it runs at lower current, enabling longer distances or thinner cables with less loss.

Why Hospitality Needs 70V/100V Systems

Hotels, restaurants, and event venues benefit from constant-voltage designs because they deliver:

- Wide Coverage: Long cable runs across multiple floors or outdoor spaces with minimal loss.
- Scalability: Add or remove speakers without complex impedance matching.
- Load Simplicity: Designers simply sum speaker tap wattages to size amplifiers.
- Per-Speaker Control: Each speaker's transformer allows local volume adjustment via tap settings (e.g., quieter dining areas, louder bar zones).

Speaker Cabling

Even in forgiving 70V/100V systems, cable choice defines system stability and longevity.

- Conductor Material: Pure copper ensures low resistance and efficiency. Cheap copper-clad aluminium raises resistance, increasing power loss and risk of failure.
- Insulation & Shielding: Proper jacketing prevents oxidation, while shielding minimizes interference from lighting, motors, or Wi-Fi systems.
- Resistance (DCR): The key metric is ohms per kilometer. Lower resistance equals less loss, especially at higher power loads.
- Rule of Thumb: Keep total SPL loss under -1.0 dB. Beyond this, volume and clarity noticeably degrade.

Managing Cable Lengths

When runs push beyond safe distances, integrators have options:

- Increase Gauge: Thicker cable (lower AWG) lowers resistance. For instance, 12 AWG carries farther with less loss than 16 AWG.
- Create Zones: Splitting a large system into multiple amplifier-fed zones reduces current per line, easing cable demands.
- Hybrid Wiring: Use heavy "feeder" cables from the rack to zone junction boxes, then lighter "spurs" to local speakers.
- Ignoring these practices doesn't just mean a quieter signal—it risks muddy bass, rolled-off highs, and poor amplifier control.

Wiring Topologies

System layout affects both performance and maintenance:

- Daisy-Chain: Quick and cheap, but a single failure can take down all downstream speakers. Best for small rooms.
- Star Wiring: Each speaker runs directly to the rack. Reliable, but costly in cabling and labour.
- Hybrid (Best Practice): Run heavy feeders to zone junction boxes, then spur out to local speakers. Balances efficiency, reliability, and serviceability.

Real-World Hospitality Scenarios

1.Large Banquet Hall

- Need: 15 speakers tapped at 60W each (900W total). Longest run: 140m.
- Problem: A single line would pull 9A—too high for standard cable. Even 12 AWG would exceed -1 dB loss.
- Solution: Split into three 300W zones (5 speakers each). Each draws only 3A, keeping SPL loss under -0.4 dB with 12 AWG feeders. Spur wiring completes the zones.

2. Fine-Dining Restaurant with Lounge

- Need: 16 speakers tapped at 6W each (≈100W total). Distance: 200m.
- Problem: A single 100W run on 14 AWG exceeds -1 dB loss.
- Solution: Two zones (dining + lounge), each ~50W. With 14 AWG cable, SPL loss is only -0.74 dB. Zones also allow tailored volume control.

3. Multi-Run Banquet Hall (Star Wiring)

- Need: 1200W amplifier feeding three separate runs (50m, 100m, 150m).
- Solution: Parallel runs from one amp channel. Keep total load ≤960W (80% of amp rating). Use heavier 12 AWG for the longest run to balance losses. If one line fails, the others continue—a critical advantage during live events.

Outdoor Hospitality Audio

Pools, patios, and resorts require special care:

- Use Direct-Burial (Armoured) or UV-Rated Cable: Standard indoor cable fails quickly outdoors.
- Protect with Conduit: Even rated cable lasts longer in PVC conduit, shielding against water, sunlight, and landscaping damage.

Amplifier Selection

A strong system isn't just cable-deep. The amplifier must be chosen wisely:

- Size with Headroom: Add 20–25% above the total speaker load. A 240W system calls for a 300W amplifier.
- Transformer Quality: Better transformers mean cleaner frequency response and less distortion.
- High-Pass Filtering: Prevents wasted power and distortion from deep bass the system can't handle.
- Pro Features: Multi-zone outputs, thermal/short protection, and robust build quality ensure uptime in demanding venues.

Best Practices for Integrators

- Plan Thoroughly: Calculate loads, gauge requirements, and zoning strategy before pulling cable.
- Choose Quality Components: Pure copper cable and professional connectors prevent long-term failures.
- Install with Precision:
- Maintain polarity across all runs.
- Use junction boxes instead of twisting/taping wires.
- Separate speaker cable from mains power and data lines.
- Test & Document: Measure each zone, confirm performance, and provide clear system maps for future maintenance.

Final Word

In hospitality, sound isn't decoration—it's atmosphere. A poor audio system risks muffled announcements, uneven background music, or costly failures. But with constant-voltage design, high-quality cabling, and professional best practices, venues gain reliable, scalable systems that elevate guest experience and brand value.

For integrators, remembering that "the system is only as strong as its weakest cable" is key. Done right, audio infrastructure in hotels, restaurants, and event spaces becomes an invisible asset—working seamlessly in the background, yet defining how guests feel in the moment.

Samir Ahluwalia is a Lead Consultant at VCNS Global, having completed BOQs for 40 hotel projects in two years and currently managing over 90 projects across India and internationally.

Innovation in Action

InfoComm India 2025 Sets New Industry Standards

InfoComm India 2025 has wrapped up, leaving an indelible mark on the professional audiovisual landscape. Mumbai's exhibition floors transformed into a dynamic showcase where innovation met implementation. The Summit presented speakers from 14 countries demonstrating the future of the Pro AV industry. With attendance up 22% from last year, over 60 sessions led by 50+ industry experts drew packed rooms and sparked lively engagement. The debut InfoComm Smart Tech Stage launched with an opening session drawing over 200 guests and media, establishing itself as a key focal point for learning..

Artificial intelligence emerged as the defining theme, with exhibitors demonstrating how machine learning is reshaping speaker tracking, content management, and predictive maintenance. Products like AREC's AI-powered systems showcased production-ready implementations already transforming corporate, education, and hospitality installations. The shift from theoretical potential to practical deployment marked significant maturation in how the industry approaches emerging technology.

The international character of this year's gathering reinforced India's position as a regional AV hub. Delegations from across continents brought diverse perspectives on smart infrastructure projects and partnership opportunities. This geographic diversity enriched conversations beyond technical specifications, delving into regulatory frameworks, cross-border collaboration strategies, and cultural considerations shaping the industry's regional expansion.

Wireless presentation and collaboration technology commanded significant attention throughout the venue. Solutions from Barco and BenQ demonstrated how seamless connectivity eliminates traditional meeting friction points, while modular systems integrate deeply with enterprise collaboration ecosystems. The democratization of sophisticated technology through intuitive interfaces addresses crucial barriers to widespread adoption, making advanced capabilities accessible to non-technical users.

Educational technology emerged as a particularly compelling vertical. Interactive learning solutions like BenQ's movement-based platforms are revolutionizing classroom engagement by merging physical activity with academic content. This reflects a broader industry trend toward experiential technology that reimagines human-technology interaction beyond traditional paradigms. The emphasis on creating immersive, participatory environments signals a fundamental shift in how institutions approach digital transformation, moving from passive consumption toward active engagement models that enhance learning outcomes.

The infrastructure powering these experiences proved equally innovative. Advanced connectivity solutions, including Beetek's ultra-high-definition optical cables and Inogeni's professional switcher docks, ensure signal integrity across demanding installations. Audio reinforcement systems from N Labs and Q-SYS demonstrated how integrated processing platforms combine audio, video, and control in unified devices with expanded DSP power and robust connectivity.

Hybrid collaboration solutions dominated product launches, addressing the persistent challenge of meeting equity between in-room and remote participants. All-in-one devices featuring 360-degree capture capabilities are redefining how organizations approach hybrid work environments, ensuring every participant can contribute effectively regardless of location.

Beyond the exhibition floor, strategic conversations in private meeting spaces shaped commercial relationships and future partnerships. Decision-makers with budget authority engaged directly with solution providers, elevating networking beyond exploratory discussions into tangible business outcomes. Vertical market specialization intensified, with vendors presenting purpose-built solutions acknowledging specific operational requirements and user experience expectations. The quality of engagement demonstrated a market ready for large-scale deployment, with procurement cycles accelerating as organizations prioritize technology investments delivering measurable returns.

InfoComm India 2025 revealed an industry confidently embracing intelligence at every technology layer, solving complex integration challenges, and demonstrating genuine commitment to practical innovation. The enthusiasm reflected authentic optimism about professional AV's expanding role across virtually every economic sector. For attendees, the event validated strategic investments in technology and professional development. For the broader industry, it confirmed that Asia-Pacific's AV market has entered an accelerated growth phase with momentum showing no signs of slowing.

In the following pages, AV Today presents detailed coverage of standout product launches from InfoComm India 2025, innovations from AREC, Barco, Beetek, BenQ, Logic Workspaces, N Labs, Inogeni, OWL Labs, and Q-SYS that will shape the industry's trajectory in the months ahead.

INOGENI TOGGLE DOCK 2x1

Seamless 4K AV Switching for Modern Workspaces

INOGENI TOGGLE DOCK 2x1 is a controllable 4K60 pro-AV switcher dock station that simplifies seamless switching between two laptop hosts. It enables effortless switching of three USB peripherals plus one HDMI display between laptops, making it the ultimate AV dock for professional installers. With USB-C Power Delivery up to 100W, it ensures efficient power and connectivity while supporting both modern and legacy devices.

Designed to work standalone without a control system, it integrates advanced capabilities via RS-232, LAN, API, and GPI for automated room management. This allows smooth automation of device switching, synchronization with UC platforms, and proactive maintenance for uninterrupted meetings. The dock supports push-button, API, and remote control options to suit various installation needs.

Perfect for huddle rooms and professional AV environments, the TOGGLE DOCK 2x1 is tested and fully compatible with major camera, videobar, and speakerphone manufacturers including Logitech, Jabra, AVer, Huddly, Bose, MAXHUB, and Poly. It integrates seamlessly with Crestron, Q-SYS, Extron, and AMX systems, ensuring broad interoperability.

With 4K60 HDMI support in 16:9 and 5K30 in 21:9 widescreen, and flexible USB-C, USB-B, and HDMI connectivity, this dock streamlines unified videoconference setups across various professional spaces—from classrooms to large boardrooms and auditoriums. Crafted for reliability and ease of use, the INOGENI TOGGLE DOCK 2x1 eliminates the need for dedicated room PCs, enabling efficient, user-friendly, and future-ready AV control.

This all-in-one solution empowers organizations to OWN their rooms with a single cable connection and hassle-free AV device management.

Meeting Owl 3

Redefining Hybrid Collaboration with Intelligent 360° Video

The Meeting Owl 3 is redefining the collaboration category for the hybrid era by offering an all-in-one 360° camera, microphone, and speaker device that ensures meeting equity in every space. Positioned at the center of the room, the Meeting Owl 3 eliminates the "bowling alley" experience typical in meeting rooms by providing a panoramic view alongside an intelligent main stage that highlights the active speakers automatically.

Powered by the next-generation Owl Intelligence System™, this device uses AI to instantly recognize and automatically focus on the active speaker, creating engaging face-to-face interactions for remote participants. For AV professionals, the system provides unmatched flexibility: it's a plug-and-play device compatible with virtually all web-based platforms, including a certified version for Microsoft Teams.

The Meeting Owl 3 easily scales to fit any room size through our seamless Owl Connect feature, which pairs two Owls wirelessly for expanded audio and video coverage, or by adding an Expansion Mic to extend the audio pickup range. Trusted by over 100,000 organizations globally, including 84% of the Fortune 100, the Meeting Owl 3 is the smart, adaptable, and essential solution for modern hybrid workplaces.

BenQ India Launches ActiveFloor

Transforming Classrooms with Movement-Based Learning

BenQ India has unveiled ActiveFloor, India's first interactive, movement-based digital learning solution designed to revolutionize traditional teaching by merging physical activity with academic engagement. This innovative platform transforms classrooms into vibrant spaces "Where Learning Meets Play" and children truly "Learn Through Movement."

Globally celebrated for its pioneering approach, ActiveFloor has received prestigious recognitions such as the Best of Bett UK Award and the GESS Best Award for Promoting Health, Fitness & Sports in Dubai. It continues to make waves across the US and other international markets as a transformative educational tool that seamlessly integrates play into learning.

Addressing today's educational priorities, ActiveFloor responds to the dual needs of schools striving for modern, inclusive teaching tools and parents seeking holistic child development. The solution promotes physical, cognitive, and social growth—helping schools stand out as forward-thinking and future-ready institutions.

At the core of ActiveFloor is its MyFloor software, featuring over 18,000 curriculum-based modules and 3,000+ teacher-approved games. These contents, available in Hindi and multiple regional languages, are fully customizable to adapt to diverse learning needs.

Ideal for pre-schools, primary schools, activity centres, and EdTech franchises, ActiveFloor redefines engagement through game-based learning and active participation. With its Indian debut, BenQ India reaffirms its commitment to empowering the next generation of learners through innovative, fun, and impactful educational technology.

BenQ India Launches InstaShow

Wireless Presentation System, Redefining Seamless Collaboration

BenQ India introduces the next-generation InstaShow Wireless Presentation System (WPS)—a breakthrough solution built to streamline meetings with unmatched simplicity, security, and collaboration. Designed for modern workplaces, InstaShow eliminates the need for apps, drivers, or complex network setups, offering true plug-and-play convenience that instantly connects teams and ideas.

The InstaShow WDC15 model supports 4K UHD @30Hz resolution and features HDMI, USB-A, and Type-C connectivity, along with integrated touchback control. With capacity for up to 16 button connections within 15 meters, it enables effortless and secure content sharing—making presentations smoother and more interactive than ever.

Taking wireless conferencing to the next level, the VS25 model combines Native 4K @60Hz clarity with BenQ's patented pure hardware conferencing solution. Supporting BYOD via AirPlay, Miracast, and Chromecast, as well as BYOM capability, the VS25 transforms collaboration across all meeting environments—from agile huddle rooms to executive boardrooms—without IT hassles.

Engineered for versatility, InstaShow supports four-way split-screen sharing, up to 64 simultaneous connections, and includes a multimedia transmitter (MTX) that integrates seamlessly with existing VC peripherals. Added innovations like a patented magnetic switchable interface and Cloud DMS support enhance usability and device management.

Built with enterprise-grade security—featuring CVSS 4.0, WPA3, HDCP, and WiFi6 standards—InstaShow ensures both data protection and compliance. With this launch, BenQ India empowers businesses with smarter, secure, and future-ready collaboration tools that elevate workplace efficiency and inspire connected innovation.

BARCO ClickShare Hub

Effortless meetings

Barco ClickShare Hub is a modular, wireless video conferencing system launched in 2025 that integrates deeply with Microsoft's collaboration ecosystem. Developed as one of the first modular Microsoft Teams Rooms devices, it is built on the Microsoft Device Ecosystem Platform (MDEP) an Android-based framework that enhances performance, security, and manageability. This foundation allows ClickShare Hub to deliver a native Teams experience with one-touch join, intelligent AI features, and enterprise-grade compliance while remaining open to future platform expansions.

The ClickShare Hub's design prioritizes simplicity and flexibility, enabling users to start hybrid meetings with a tap on the control panel and share content wirelessly in 4K without cables. It integrates with Microsoft Teams to create an intelligent meeting environment where participants can collaborate seamlessly across devices. By leveraging MDEP's capabilities, Barco ensures that meeting spaces benefit from Microsoft's strong security infrastructure, centralized device management via the Teams Admin Center, and built-in AI enhancements that optimize video, audio, and productivity experiences.

This new generation of ClickShare devices represents a strategic pivot by Barco into the Microsoft ecosystem, moving beyond its traditional "bring your own device" approach. The Hub supports Microsoft-certified peripherals such as video bars, cameras, and speakers, ensuring standardized deployment across meeting rooms. With the Microsoft partnership at its core, ClickShare Hub delivers a unified, high-quality hybrid meeting experience that combines Barco's innovation in wireless presentation with Microsoft's intelligent collaboration technology.

AREC DS-9CU

Intelligent Speaker Tracking and Camera Control

The AREC DS-9CU Speaker Tracking Station is an innovative AI-powered system designed to enhance conference communication by automatically tracking and displaying active speakers in real-time. It connects seamlessly with compatible conference microphone systems and PTZ cameras to create a professional and engaging meeting environment. The system supports up to nine cameras, intelligently selecting those not in use to focus on each speaker. It automatically switches screen layouts and overlays name tags to ensure clear identification, improving viewer engagement during both local and remote meetings. Even with fewer cameras, features like Override Mode and FIFO Mode enhance the smoothness of camera transitions.

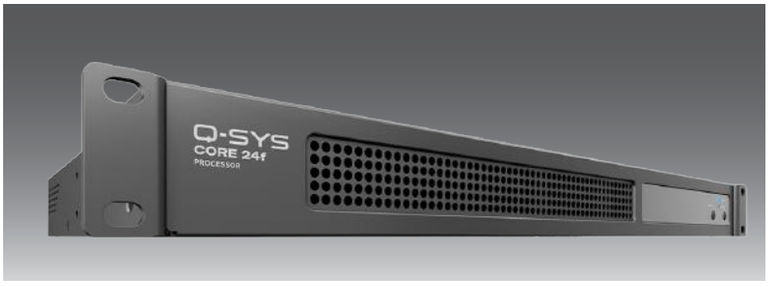
The DS-9CU's broad compatibility includes integration with many well-known third-party brands such as Audio-Technica, BOSCH, SENNHEISER, and SHURE, allowing organizations to upgrade their conferencing setups without replacing existing equipment. By automating camera control and speaker tracking, the system helps meeting facilitators focus more on the discussion content rather than managing technical aspects. This boosts overall meeting productivity by delivering flawless visual tracking and speaker acknowledgement.

In today's hybrid work culture, the AREC DS-9CU meets the growing need for clear, dynamic, and professional virtual meeting experiences. Its intelligent design makes it a valuable investment for businesses seeking to improve meeting communication, collaboration, and viewer engagement, thereby transforming how organizations connect in both physical and virtual spaces.

This advanced speaker tracking station represents the future of conferencing technology by combining AI automation, flexibility, and wide compatibility into a single, effective solution.

Q-SYS Core 24f

The Future of Integrated Audio, Video, and Control Processing



The Q-SYS Core 24f is the next evolution of integrated processing, bringing audio, video, and control together in a single, 1RU device. Built on the legacy of the category-defining Core 110f, it delivers twice the DSP power, expanded network I/O, and robust onboard connectivity to meet the performance demands of today's AV environments. At its foundation is the Q-SYS Intelligent Platform OS, a unified operating system that seamlessly processes and distributes AV and control data, ensuring real-time responsiveness and orchestrated experiences across any space. With expanded network audio capacity (up to 160 x 160 channels), integrated AV bridging via USB-C, and four network ports, the Core 24f provides unmatched flexibility for integrators. Users can design dynamic, tailored AV systems powered by its robust control engine—without specialized coding. As part of the Q-SYS Full Stack AV Platform, the Core 24f delivers an open, software-defined architecture built to adapt, scale, and evolve.

Designed as the successor to the Core 110f, the Core 24f significantly elevates processing power to meet modern AV requirements. It includes intuitive Q-SYS Control that leverages the full control engine without extra licenses, enabling tailor-made user control and automation experiences for each unique space without needing specialized programming. This is all powered by the Q-SYS Full Stack AV Platform, which offers an open, software-defined architecture capable of scaling, adapting, and evolving for future needs. It unifies data, devices, and cloud-centric infrastructure to simplify integration and boost software scalability.

N-Labs DNA9 Amplifier

The Backbone of High-Performance Audio Amplification

The N Labs DNA9 amplifier is a high-performance professional audio amplifier designed for robust and reliable sound reinforcement. A key feature that sets the DNA9 apart is its onboard integration with Dante audio networking technology, which supports seamless, low-latency digital audio transport over Ethernet. This makes the DNA9 ideal for modern networked audio systems, enabling easy scalability and flexible deployment in complex sound environments.

The amplifier also supports Milan AVB and AES67 protocols, ensuring compatibility with industry standards for audio-over-IP applications. With a 192-bit AD/DA converter operating at a 96kHz sampling rate and onboard DSP—including IIR, FIR filters, dynamic EQ, and RTA sound customization and precision are highly advanced.

Additionally, the DNA9 amplifier is compatible with Linux-based control systems, which allows integration into modern audio management and automation platforms commonly used in professional installations. This compatibility enhances system control and monitoring capabilities, enabling audio engineers to optimize performance remotely and efficiently.

Technically, the DNA9 offers up to 9000 watts of power, operates primarily at 4 ohms impedance, and features comprehensive protection circuits including short circuit, overload, thermal shutdown, and DC protection. Its frequency response spans 20 Hz to 20 kHz with a damping factor greater than 3000, providing clear, dynamic, and controlled output.

Combining cutting-edge network protocols like Dante with Linux compatibility makes the DNA9 a future-ready solution for demanding environments such as concert venues, corporate AV setups, and large-scale public address systems, delivering unparalleled connectivity, power, and operational flexibility.

Beetek GDH06

Strength, Flexibility, and Reliability in Every Connection

The Beetek GDH06 is a premium silicone HDMI 2.1 Active Optical Cable (AOC) engineered for ultra-high-definition, long-distance transmission with zero signal loss or delay. Supporting resolutions up to 8K@60Hz (7680×4320) and 4K@120Hz, it ensures flawless image and sound quality over distances of up to 100 meters—no external power needed. Just plug and play like a standard HDMI cable.

Powered by a superior VCSEL chipset and OM3 optical fiber, the GDH06 ensures high bandwidth with ultra-low latency, supporting full HDR, 4:4:4 chroma subsampling, eARC, VRR, and all HDMI 2.1 features. Engineered for both durability and flexibility, it offers a long service life of up to 100,000 hours.

it features a soft Flow Silicone jacket and stainless steel spiral armoured piping for exceptional tensile strength, crush resistance, and easy handling, even in demanding environments.

Available in multiple lengths starting from 10 to 100 meters, the GDH06 is ideal for a wide range of applications, including Professional AV, Home Theatre, rental and staging, Medical Imaging, Digital signage, and more. It's a reliable, high-performance alternative to traditional 4K & 8K HDMI extenders, offering a cleaner, more efficient setup for long-range connections.

Beetek AV is a technology-driven Passive Technology Manufacturer founded in 2016, dedicated to creating innovative, rugged, and high-value connectivity solutions for the audio-visual industry. Beetek stands out for its customer-centric approach emphasizes that "a cable is not just a cable", reflecting its commitment to turning everyday connectivity components into premium, purpose-built solutions that simplify professional AV integration.

LOGIC VisionHub

A Technological Leap in Workspace Collaboration

VisionHub by Logic Workspaces is a technologically advanced collaboration platform engineered to transform modern workspaces into highly interactive and efficient environments. At the technical core, VisionHub integrates LED displays, all-in-one video bars, AV frames, and modular hardware components like cable trays and equipment racks into a unified system designed for seamless connectivity and control.

The architecture supports broad hardware compatibility with leading communication and AV device manufacturers such as Cisco, Poly, Yealink, Jabra, GN, and Logitech, enabling organizations to leverage their existing technology ecosystems without friction. VisionHub's infrastructure includes flexible power and data management with strategically integrated outlets, vents, and power sockets to streamline installation and maintenance.

VisionHub offers dual panel finishes—Midnight Grey and Regal Oak—allowing aesthetic customization that complements contemporary office designs while housing sophisticated AV technology. The platform supports unified identity management and user interaction, delivering harmonized control via integrated software that simplifies meeting management, content sharing, and real-time collaboration.

Behind its sleek design is a scalable system that accommodates various meeting room sizes, from intimate huddle spaces to large conference rooms, ensuring consistent visual and audio quality through precision-engineered LED display technology and advanced video bar inputs.

Logic Workspaces' VisionHub emphasizes holistic system integration, making it more than a simple AV installation. It represents a comprehensive collaboration hub that redefines workplace interaction by providing a powerful, reliable, and scalable technology backbone that fosters engagement, productivity, and streamlined communication in dynamic corporate environments.

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Mumbai Hospitality

NOX at The Westin Powai

Where Luxury Meets Perfectly Curated Soundscapes

Integrator: Audio Tecnik / Generation AV
Category: Premium Dining
Client: NOX, Westin Mumbai
Contact: www.generationav.net

Perched on the 36th floor of The Westin Powai, NOX offers Mumbai's elite a breath-taking retreat overlooking verdant landscapes and shimmering lakes. This chic lounge bar, designed with dark leather and wood patina reminiscent of luxury yachts, needed audio that matched its sophisticated ambiance present yet never overwhelming.

The venue's musical journey transitions seamlessly from early evening jazz featuring John Coltrane and Miles Davis to energetic drum and bass, culminating in house and trance as night deepens. Achieving this required precise sound distribution across the entire space without dead spots or overpowering zones.

AudioTechnik India, partnering with Generation AV India, delivered a signature installation featuring Optimal Audio Cuboid 8 and Cuboid 12 speakers with HH Audio's 18" TNA 1800S subwoofers. Speakers were cleverly positioned between ceiling beams for optimal coverage. LEA Professional's CS1504 and CS704 amplifiers with advanced 96KHz DSP ensured manufacturer-recommended presets delivered perfect clarity and detail.

Rajesh Patil emphasized the technology's flexibility in creating soundscapes aligned with the venue's vision remaining visually and sonically unobtrusive. The result? Lush, evenly distributed sound that enhances rather than dominates, allowing patrons to savor hand-crafted cocktails against Mumbai's stunning skyline without jarring interruptions.

Mumbai Hospitality

The Sound of Modern Japan

Harajuku Tokyo Café Redefines Mumbai's Dining Experience

Integrator: Bassline AV Technologies
Category: Fusion Restaurant
Client: Harajuku Tokyo Café, Mumbai
Contact: www.generationav.net

Mumbai's Harajuku Tokyo Café revolutionizes Japanese dining with a contemporary twist—merging café culture, Asian fusion cuisine, and karaoke bar energy. Targeting millennials and GenZ, entrepreneur Gaurav Kanwar's first outlet blends authentic Japanese street food with modern QSR casual dining, eyeing national expansion with 90+ planned locations.

Music forms the experience's cornerstone, with a Robot DJ curating eclectic playlists spanning funky K-pop to retro classics. HH Audio's TNi Pro loudspeaker system, embodying British tone legacy, delivers this sonic experience. Powered by LEA Professional's CS1504 multi-channel amplifier with 96KHz DSP, the system seamlessly transitions from daytime café ambience to lush club vibes, utilizing manufacturer-recommended presets for optimal clarity.

Varun Dua of Bassline AV Technologies, Gurgaon, partnered with Generation AV India to execute the installation. With 100+ café, lounge, and bar installations over three years, Dua emphasizes sound design as artistic expression—creating curated soundscapes that enhance without overwhelming the experience.

As evening descends, the space transforms into a high-energy izakaya buzzing with sake bombs and electric vibes. Strategic speaker placement ensures the perfect balance where patrons come for innovative fusion cuisine and stay captivated by infectious energy and music.

Mumbai Corporate

Transforming Workspaces

Scan Global Logistics' state-of-the-art AV integration

Integrator: AllWave AV Systems Pvt. Ltd.
Category: Hybrid Collaboration Spaces
Client: Scan Global Logistics, Mumbai
Contact: www.allwaveav.com

AllWave AV Systems executed a sophisticated AV deployment at Scan Global Logistics, creating versatile audio-visual solutions spanning meeting spaces, executive cabins, reception, and pantry areas across 7000+ square feet. The project integrated BYOD capabilities, Teams Room Native technology, digital signage, and streamlined content sharing for seamless collaboration.

The solution included four BYOD meeting rooms accommodating 4-6 participants, equipped with Logitech MeetUp cameras for flexible plug-and-play conferencing. The MD cabin features a Rally Bar Mini in BYOD mode for premium video collaboration, while smaller cabins utilize simple HDMI content sharing for quick presentations.

Reception areas showcase a 65" display on a floor trolley for corporate messaging and visitor engagement. The centerpiece boardroom, configured as a Teams Room Native environment, boasts a Rally Bar with three Logitech mic pods, Tap IP touch controller, 8x1 HDMI auto switcher for seamless content transitions, and an impressive 98" display for impactful presentations. The pantry area includes a ceiling-suspended display for dynamic announcements.

The result is a streamlined AV infrastructure enhancing meeting engagement and supporting modern workplace workflows. AllWave AV Systems commends the Scan Global Logistics team for outstanding coordination that ensured seamless, efficient project execution.

New Delhi Hospitality

Elevating Entertainment

Connaught Club's audio revolution in the heart of Delhi

Integrator: VMS Delhi
Category: Clubs and Resorts
Client: Connaught Club, New Delhi
Contact: www.alphatec.co.in

Connaught Club in New Delhi, celebrated for its vibrant atmosphere, freshly brewed beers, and live entertainment, faced a critical challenge: inadequate sound coverage across its multi-level venue. Limited speakers forced costly audio equipment rentals for events, while guests in different areas—from the bustling club floor to the upscale fine dining space—experienced inconsistent sound quality that diminished the impact of performances.

VMS Delhi's Mr. Sandeep Duggal partnered with Alphatec to deliver a comprehensive solution using state-of-the-art technology. The team installed high-performance Labgruppen D 120:4L amplifiers paired with strategically positioned Tannoy loudspeakers, including powerful Vx12.2Q dual 12" speakers and 218b subwoofers for deep bass impact throughout the venue. Custom-designed speaker enclosures ensured the technology blended seamlessly with the club's sophisticated décor, maintaining aesthetic appeal while delivering exceptional audio performance.

The transformation eliminated rental expenses, saving thousands of rupees annually, while creating consistent, immersive sound throughout every corner of the venue. Today, Connaught Club exemplifies sonic excellence in Delhi's heart, offering guests unforgettable experiences where superior audio quality enhances every DJ set, artist performance, and evening out.

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