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Church Audio in Kerala

TECHNOLOGY

- Acoustics
- Power of AVoIP
- Audio guides

CORPORATE STORY

Online Instruments marks
30 years of spectacular
success

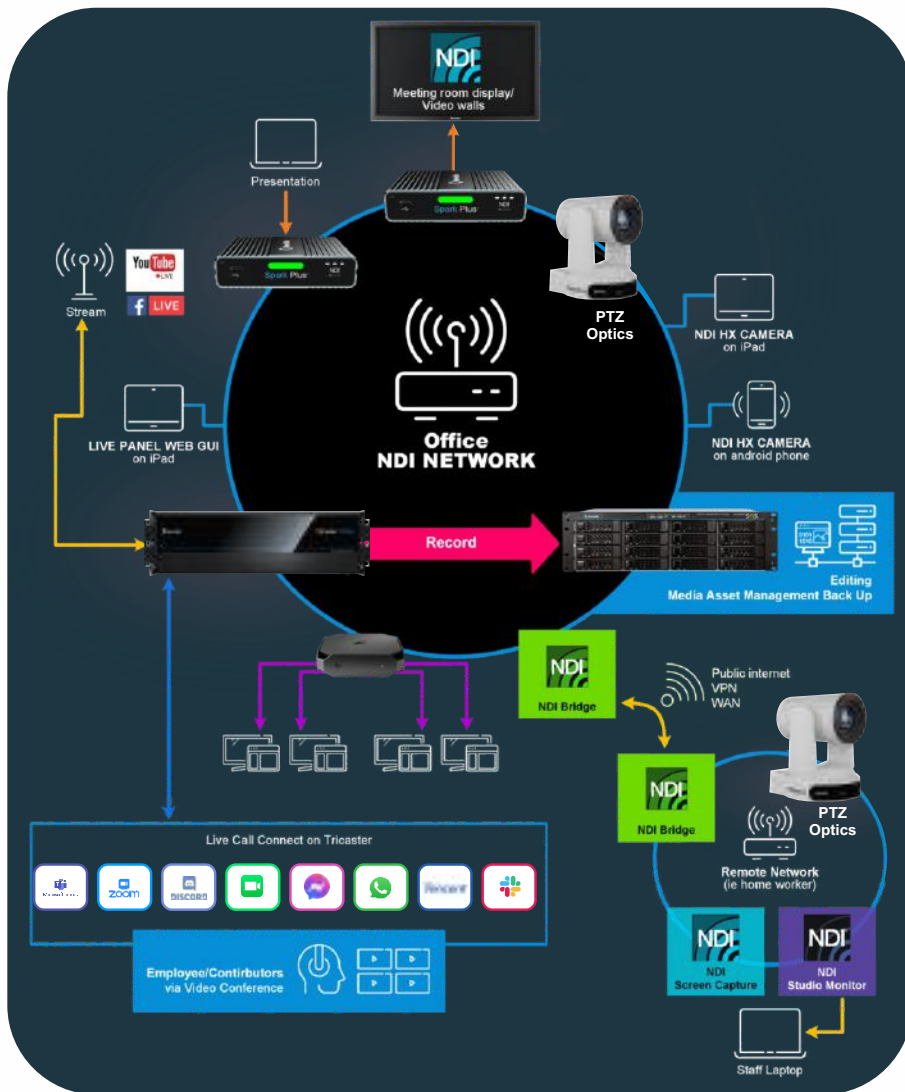


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Akhilesh Gupta

+91 8053002289

akhilesh.g@cdmts.com

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Nishita Hanspal Kalita

Consulting Editor

EDITOR'S NOTE

It's a bright, beautiful morning in June as we add the final touches to our latest edition, featuring a variety of features, interviews, and case studies that capture the evolving world of AV technologies and their ever-expanding applications.

In this edition, we zoom in on India's booming hospitality industry with insights into how AV technologies are shaping immersive guest experiences and then go east to uncover the allure of the Mystique Mayong Eco Resort and the AMPM café on Park Street, Kolkata.

We also spotlight inspiring narratives on Online Instrument's 30th anniversary, their journey thus far, and future plans, as well as Willis Desai's journey from drummer to tech innovator.

It's incredible how AV tech is crucial in bringing people together. We explore this and more in our feature on custom sound system designs for diverse church architectures in Kerala. We also examine solutions for creating noiseless office spaces and the transformative power of audio guides in making India's rich history accessible and engaging.

Finally, we catch a glimpse of the future in the making as we explore AV over IP trends, new installations pushing the boundaries of innovation, and the COLL-AV-RATE Tech Showcase event.

We hope you find this edition insightful and informative.

K David Paul Sudhakar

Founder & Director

Chitra Phadnis

Editorial coordinator

Pradeep Sreedharan

Manager Operations

Spiked Creative

Magazine Design

Wyzemen Media Pvt Ltd ,

No.40, 4th Floor, VJ Infinity, 2nd Cross, Dr.Shantakumar Layout, Kasturi Nagar, Bengaluru India 560043

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NOISE AND QUIET.

Like War and Peace. Polemos kei Eirini.

As true Indians, we have a problem acknowledging issues with concentration. Most of us have heard stories of real people we know who've come up through absolute hardship. We're expected to concentrate like they did. In environments that are far noisier than the said reference point. This just does not work in today's world. In this article, we will look at some typical sources of office noise, how to eliminate those, and what to do when you really cannot get rid of it.

The Sources

TRAFFIC NOISE INTRUSION

Our offices are a mix of collaborative, focussed, casual unwinding and serious meeting room spaces. These are thankfully, mostly insulated from outside noise, but clearly, enough such spaces are not. Especially offices of venture capitalist companies – these tend to be small in occupying numbers by nature – these do not grow to 1000 member organizations. However, Partner's cabins, Video Conferencing rooms, meeting rooms, Personnel Cabins, all require high levels of soundproofing due to the sensitive nature of information discussed in these rooms.

Most corner offices face traffic noise intrusion from at least 1 side, if not two. Solving for quietness is essential in these rooms. Pass-by noise is intermittent,

unpredictable, and can be tonal or rough sounding, and frequently causes lapses in focus. In addition, the façade elements are often placed in such a manner that their joineries are not acoustically sealed, leading to a lot of flanking noise between rooms.

In smaller offices such as these, it is good to buffer the outer zone with non-critical spaces, but that rarely happens as there usually really isn't that kind of space. Augmenting the façade with additional glazing is the way to go in such cases.

In larger buildings, there is usually plenty of lawn areas and the office area is significantly set back from the road. The façade glass, usually a 12mm thick toughened glass, is typically enough to keep the ambient traffic noise in check and bring it down such that it is not intrusive-sounding.

BACKGROUND NOISE LEVELS

Even if the background noise levels in an office are within acceptable limits, there's the issue of the whirring coffee machine, the printing and reprographics, and just footfall and conversational noise. Everyone knows what a call centre sounds like to the person calling the helpline. One can hear the entire floor talking at the same time, while struggling to understand the speech of the one person relevant to us, in a typical scenario.

In other scenarios, many office cultures are quiet. We have seen entire floor spans of workstations, mostly occupied, most people on headphones, taking calls in soft tones. But usually, there is a sensible upper limit on how many hours one would want to use headphones for.

BUILDING SERVICES NOISE

The larger the office, the bigger and noisier the AHU required to feed it life-sustaining air. Between the supply and the return air openings, most of the wall is open. Careful design will ensure adequate plenum spaces that allow for a peaceful expansion, and will allow for a laminar flow of the return air. An intelligent design would appropriately space quiet rooms away from the AHU rooms, after which based on the type of lining used, enough attenuation of the noise can happen over the specific distance. Duct losses must be calculated, as this tips the scales between a quiet and a noisy experience.

Even if the background noise levels in an office are within acceptable limits, there's the issue of the whirring coffee machine, the printing and reprographics, footfalls and conversational noise.

The Solutions

ACOUSTICAL TREATMENT FOR REVERBERATION

The first would be to make the work areas somewhat softly padded. These are often neglected, as it is the meeting rooms that need wall panelling, but it is the people in open offices that suffer sounds of footfalls, mobiles ringing, lift dings, and wafting conversation. It makes sense to segregate the reception area from the workstations area through a glass door. Acoustical treatment ensures that the noise has some place to go get absorbed into.

BACKGROUND NOISE CONTROL

The second is to ensure background noise due to all building services is at acceptable levels. This is easier said than done as most often the base builder provides the AHUs and those locations cannot really be changed to suit our conveniences. Hence the layout must be adjusted around this. AHUs have another issue – in that between the supply and return ducts, a lot of the AHU noise leaks out. It's a fallacy to think that the airflow in the return air ducts is going towards the AHU – the noise will flow out from the source in all directions, regardless of the direction of air flow or the pressure gradient. This needs some stringent steps, depending on the capacity of the AHU and its noise rating.

ZONING

The third is to keep separate zones for focus areas and for collaborative work. Hot-desking areas where discussions can happen without disturbing focus areas would help to make people get into comfortable, even animated conversations, without worrying about having to keeping it down. Sliding glass doors help to keep the noise in while keeping the views expansive.

FOCUS PODS

The fourth, is to look at Focus Pods. These are individual cabins, floating around in offices. These are tiny rooms,



just enough for a person to sit and take calls, maybe keep a laptop in front of them. These may or may not come with any kind of AV equipment, except maybe charging for the laptop.

These serve a triple function. First, if you really need to put your head down for half an hour and get something done, this insulates you from the road noises that may be making their way in through the façade glass, which, one rarely has control over – these are provided by the base builder and there is usually not much one can do to augment it for soundproofing, especially in rented spaces.

Second, these work to provide privacy for personal calls, and focus for meeting

calls. Many of these come with fans for ventilation, and those have an additional speech masking effect.

Thirdly, these serve as permanent desks for those whose jobs involve a good amount of calls. These are clearly helpful in growing offices and in rented spaces where it is not feasible to make physical changes to the space.

SPEECH MASKING

This is a psychoacoustic phenomenon. Our brains, in the presence of a white noise-ish background, cannot discern words very well. The same words, in the absence of the white noise source, can be heard crystal clear and understood. This

a random example. The noise from the speakers is a steady-state noise that the brain quickly learns to predict and tune out, and so it doesn't call your attention.

While this solution works to keep people undistracted, it doesn't make up for reverberation in a space. As long as the RT is within acceptable limits, this will work well in most scenarios.

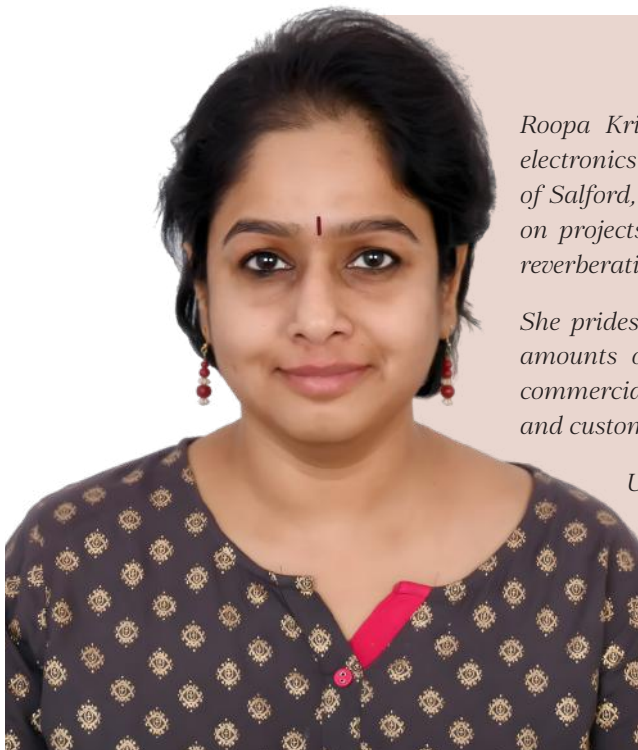
Conclusion

To conclude, ultimately, the pressure is on the employee to tune out the noise and turn in the work for the day, but design

can go a long way in making it easy for the occupants to focus on their job, turn in more within the same time, tune into higher order thinking, and finally, go home with good amounts of cognitive energy still left.

Noise can raise blood pressure, cause bodily distress, mental agitation, and loud levels can even bring out the monster in a sane person. Quietness on the other hand, leads to focus, deeper thinking, and graceful output. It is ultimately a design choice - are we engineering for quietness, or for noise.

Hot-desking areas where discussions can happen without disturbing focus areas would help to make people get into comfortable, even animated conversations, without worrying about having to keeping it down.



Roopa Krishnamurthy, an acoustical consultant based out of Bangalore is an electronics engineer with a post graduate degree in Audio Acoustics from the University of Salford, UK. She has worked through her 11 year old company Soundscape India on projects ranging from speech intelligibility predictions, standards compliance, reverberation treatment and building noise control.

She prides herself on using local material which helps save her clients significant amounts of time and cost. Roopa has undertaken projects in the educational, commercial, hospitality, corporate and residential industry, and in specialized studios and customized, audiophile-grade home theatres.

Understanding the importance of silence as much as audio, Roopa believes that a quiet workplace can be conducive to concentration. She writes on typical sources of office noise, how to eliminate them, and what to do when you really cannot get rid of them.

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BRIDGING THE GAP BETWEEN THE PULPIT AND THE PEWS

Enhancing Church Audio in Kerala



Kerala, India, home to a significant Christian population, with 19% of its residents identifying as Christians, has a high density of churches, more than any other state in India. With roots dating back to the first century A.D., these churches represent an array of denominations, including the Syro Malabar Church, Jacobite Syrian Church, Malankara Orthodox Church, Latin Church, Chaldean Syrian Church, Assyrian Church, Malankara Marthoma Church, CSI Church, and numerous Protestant churches.

Kerala's churches are characterized by a blend of traditional and contemporary worship styles, each presenting distinct audio challenges. Traditional services prioritize vocal clarity and speech intelligibility, while contemporary services require complex setups involving multiple microphones, mixers, and monitors to handle various instruments and singers. Regardless of the congregation size, a

well-designed sound system is essential to ensure that the message is heard and felt by all attendees.

Custom Sound System Design for Diverse Church Architectures and worship styles

Given the vast diversity in the denominations, each Church has its own aesthetic that is key to its tradition and worship styles. For instance, Gothic style Churches that are popular in the more traditional communities are

usually heritage structures with high vaulted ceilings, large open spaces and

incorporate wooden pews, hard surfaces such as tiled flooring, wooden arches and stone or concrete walls and ceilings. This creates a unique set of acoustical challenges, due to reflections, resulting in high reverberation times (RT60), which reduces speech intelligibility. Any sound system that has to be installed has to consider the acoustics of such a highly reverberant space.

Additionally, church committees are usually reluctant to add acoustic treatments to these spaces, primarily due to aesthetic and budgetary constraints.

"In the battle between the budget and the right solution, the budget usually wins, with a resulting compromise in quality",



"In the early phases of construction of churches, aesthetics and structural design receive significant attention, and budget for audio is frequently overlooked"

Manu Philip - Director
Zacs n Phils Consultants

says Matthew, a sound engineer who has installed audio systems for nearly 60 churches in North Kerala and Tamil Nadu in the last five years. A lot of times he has been unable to bag projects because the church didn't have the required budget.

In case where budget is a constraint, the best course of action is generally to go with highly directional loudspeakers, provided by column arrays that incorporate digitally steerable beams. The advantages of such loudspeakers is their ability to focus sound energy towards the listening areas without having to excite hard surfaces and thereby reduce reflections. Combined with minimal acoustic treatment to prevent back slap from the back of the venue, this is usually an effective solution.

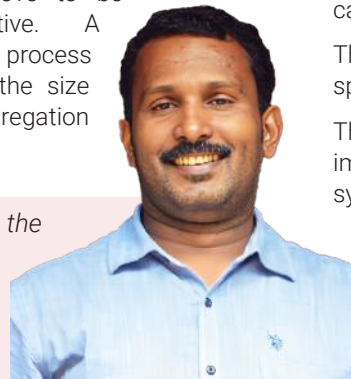
"In the early phases of construction of churches, aesthetics and structural design receive significant attention, and budget for audio is frequently overlooked,"

"In the battle between the budget and the right solution, the budget usually wins, with a resulting compromise in quality"

levels (SPL) with better frequency coverage. Also, line array speakers tend to disperse sound more evenly across the audience areas without significant drop in volume and tonality. A trend that has been observed more recently in the churches that include praise and worship is to incorporate a full band in the choir -- which also necessitates a modern mixing console with digital signal processing and digital crossovers (frequency divider circuits).

Right sizing sound reinforcement systems - different approaches

While it may sound attractive to buy the biggest and the most expensive sound system for a church, that may sometimes prove to be counterproductive. A more efficient process is to identify the size of the congregation



Mathew George
Audio Consultant

says Manu Philip of Zacs and Phils who has worked on close to 20 church projects in Trivandrum, Idukki, Thrissur, Ernakulam and Pathanamthitta.

Audio solutions need to be aligned with the unique heritage, worship style, aesthetics, and budget of each church. A thoughtful balance between aesthetics and acoustics can lead to a harmonious blend of tradition and technology, enhancing the worship experience for all, believes Philip. Modern design technology, including top-notch speakers, amplifiers and digital signal processing can help achieve this.

For most modern churches with more contemporary designs, some acoustic treatments can be incorporated during the construction of the building itself, and a more conventional approach to sound design (as with auditoriums) may work. In this space, line array speakers have seen more popularity due to the ability to achieve higher sound pressure

and nature of worship, which in turn determines the percentage of speech to music and the kind of music, instruments used and the acoustics of the venue and last but not the least the budget available.

Once these requirements are mapped, a simple EASE plot with the recommended loudspeaker solution helps in identifying loudspeaker locations, coverage, frequency response and SPL at each point in the venue. Then the amplification and processing is drawn up. The number of inputs including choir mics, musical instrument mics, DI boxes (for keyboards and guitars) and other input sources or recording/broadcasting outputs are considered. A suitable console is selected depending on the inputs, the kind of processing required as well as the expertise of the operator(s) or the engineers. As with concert venues, wireless mic systems and wireless in-ear monitoring are also considered, with the given budget and practicality.

The current trend is to use digitally programmable consoles that can be preset to incorporate multiple scenarios. Also, with the advent of networked audio protocols such as Dante, the emphasis is on signal processing and transport digitally. This also means easier management and lower costs of maintenance.

Some of the other considerations that have arisen especially during and after the COVID-19 pandemic is the ability to enable remote worship options, by relaying the AV signal through a web-conferencing service. HD cameras and video processing gear incorporated with the sound system can provide true high definition, broadcast grade feed for web casting or for archival.

The last word – training, knowledge and spreading awareness.

The benefits of a well designed and implemented sound reinforcement system in churches cannot be overemphasized, especially when most venues are acoustically challenging and speech intelligibility is the casualty.

Manufacturers, consultants, and system integrators need to engage more actively with architects, designers and end-user groups such as church committees to inform and educate them on the options available thanks to technology advancements, keeping in mind the future needs of the community.

Training and education can help achieve these objectives and lead to win-win scenarios. It can help avoid mistakes in product and technology choices, which often lead to expensive rework and/or complete system redesign.

Kerala's diverse churches underscore the importance of tailored audio solutions in enhancing worship experiences. By blending advanced technology with a deep understanding of acoustics and aesthetics and transforming the soundscapes of these sacred spaces, good audio systems can ensure that the message of faith is heard and felt by all -- truly bridging the gap between the pulpit and the pews.

HOW AV TECHNOLOGIES ARE FUELING IMMERSIVE EXPERIENCES IN HOSPITALITY

Imagine checking into a hotel with stunning views, plush rooms, and delectable cuisine, but what blows you away are the personalized 'wow' digital moments at every turn. From show-stopping visual displays in lobbies to seamless acoustics in banquets and intuitive in-room entertainment, audio-visual (AV) solutions are core to shaping guest experiences in India's hospitality industry today.

India's hospitality industry is on a growth trajectory. With an estimated market size of \$247.31 billion in 2024, it is expected to reach USD 475.37 billion by 2029, growing at a CAGR of 13.96% during the forecast period [Mordor Intelligence: Hospitality Industry In India Market Size (2024 - 2029)]. In this fast-changing landscape, hotels are more than just stay or event venues; they are gateways to immersive, personalized experiences, and AV technologies play a pivotal role in bringing these experiences to life.

Rituraj Bajaj, vice president of Zerone Technologies Pvt Ltd., sees this as an exciting time for the hospitality industry. "With new add-ons becoming available, clients seek customizations, helping us better understand how to integrate these new features and provide added value. Standalone AV technologies are now integrating with IT, requiring a thorough understanding of both," he says.

"Clients are now more knowledgeable about AV technologies and more mindful about investments," says Sangya Gupta, CEO of ASK Consultants. "There has been a shift towards using video projections and high-quality displays in public areas and restaurants to improve the guest experience around the clock with an emphasis on conferences and interactive team spaces."

Raja S. Prabhu, director of India

operations at ihD Ltd., notes that hotels are becoming more strategic with their AV investments today. "The main focus has always been banquet areas, special restaurants, and meeting spaces, and there was a lot of investment in these areas earlier. As technology advances, hotel AV systems will become simpler and more intelligent," he explains.

Turning up the 'Wow' factor across hospitality spaces

From Instagram to infinity pools, today's boutique hotels are weaving together bespoke, immersive experiences that delight guests and create cherished memories for a lifetime.

A major trend is the rising influence of social media and content creation, notes Rituraj. "Authentic storytelling like behind-the-scenes videos, staff spotlights, and customer experiences on platforms like Instagram and YouTube enrich the narrative, and this kind of exposure is attracting a broad audience," he explains.

Sangya highlights that India is experiencing exponential growth in demand for hotel rooms in tier-2 and tier-3 cities. "Properties are emerging in smaller Indian cities to cater to the growing demand driven by changing lifestyles and the need for banquet facilities," she says. "There is also a surge in spiritual tourism, leading to the development of properties near religious sites like Vrindavan and Ayodhya," she adds.

"Properties are emerging in smaller Indian cities to cater to the growing demand driven by changing lifestyles and the need for banquet facilities. There is also a surge in spiritual tourism, leading to the development of properties near religious sites like Vrindavan and Ayodhya."

Sangya Gupta
CEO - ASK Consultants



Rijuraj presents an interesting perspective on hotels in smaller towns embracing theme-based customizations that resonate with the cultural and spiritual themes of the location. "For instance, high-end hotels in Mathura or Vrindavan incorporate themes associated with Lord Krishna, creating a serene and immersive stay for guests," says Rituraj. He stresses the importance of AV systems in bringing these experiences to life." For instance, listening to Gurbani in the morning when in Amritsar or doing a live darshan from a hotel can be meaningful but only with a high-quality AV setup."

Corporate India is also contributing to the industry's expansion. Sangya points out that companies are now expanding their reach into smaller towns, increasing the use of AV technologies in various types of hotels. "With the rise of remote work, companies are hosting town halls and speed interviews, reserving meeting rooms, and booking banquet halls to bring their people together virtually. This trend suggests a move towards collaboration solutions rather than just video conferencing," she explains.

Weddings are extravagant in India, making them big business for the hospitality industry. "Guests book these venues for private experiences in banquet halls and other private spaces. Moreover, destination wedding venues are also popular for corporate employee events. An increase in the development of airports has also made airport hotels convenient for hosting weddings," she says. As these trends converge, hotels seek to cater to a

broader range of clients.

A recent MakeMyTrip report on travel trends reveals that Indians travel much more than before. Raja explains that in the past, families usually traveled once or twice a year. "Now, even a long weekend is a reason to travel. The growing popularity of religious tourism, leisure and entertainment destinations nationwide, and the government impetus on tourism are fueling growth," he says.

Another key trend is the growing preference for branded hotel chains, which assure a certain level of service, highlights Rituraj. Now, people seek luxury experiences and prioritize convenience and comfort. Hotels are also investing in properties and renovations to improve services and cater to the growing number of international travelers and the rising buying power of Indian travelers," he says.

"This is an exciting time in hospitality as it lays the foundation for future generations to have luxury at their fingertips," he adds.

Enhancing experiences across hospitality spaces

Lobbies welcome guests with multi-sensory experiences.

Step into the lobbies of today's hospitality spaces, and you'll be greeted by more than just a warm welcome. "Large screens display welcome messages, information about special events, or virtual tours of the hotel, allowing guests waiting to check in to explore the property and its amenities. Digital signage has become essential to the hospitality industry,

from lobbies to banquet spaces, making events more seamless and integrated," says Rituraj.

Banquet and event spaces are becoming versatile.

Sangya explains that customers are now renting banquet halls and event spaces for various purposes, including parties, weddings, conferences, and corporate events, and hotels are investing in good acoustics to meet client needs. "We focus on back-end controls and connectivity so rental companies can easily set up their event equipment. This setup benefits the client, as they don't have to invest in capital expenditures. Instead, they only pay for the rental, which is usually covered by the customer," she says.

Raja shares another common practice in hotels with two or more banquet halls. He explains, "Hotels may fully invest in one banquet hall and make the other halls portable to meet client needs. Additionally, by including an activity wall and a high-quality audio system, they might invest in MICE (Meetings, Incentives, Conferences, and Exhibitions) facilities for one hall, which provides a good ROI (return on investment)."

Raja explains that the decision on how much to invest and whether to handle AV operations in-house or through outsourcing also depends on the size and location of the property. "For example, a luxury resort in Goa may manage everything in-house, while a five-star property in a metro may outsource services based on seasonal demand."

Intuitive and immersive guest room experiences.

Hotel room AV systems are shifting to Smart TVs and personalized streaming, allowing guests to control and customize their entertainment options. Sangya shares that in the past, TVs

"Nowadays, there is a significant emphasis on providing good acoustics in every space, leading to substantial investment in this area. Additionally, there is an increased focus on security and meeting environmental requirements, a notable shift from before."

Raja S. Prabhu
Director, India Operations, ihD Ltd.



were typically 32 to 42 inches in size. “Nowadays, no guest room TV is smaller than 55 or 65 inches. This change reflects the evolving standards of guest room accommodations”, she says.

Raja adds, “Viewing habits have shifted, with streaming services like Netflix and Amazon Prime becoming the new norm. Today, guests prefer to use their own devices to stream personal content. The hotel’s traditional IPTV system has been replaced. Smart TVs and good internet connectivity, with an emphasis on better

private spaces with improved acoustics, are the focus.”

Tech-infused culinary experiences.

Rituraj explains how restaurants are using gadget-based menus through PDAs or iPads. “Customers can select items by scanning barcodes with their phones, and the menu is customized based on their table. These gadgets are connected to the restaurant’s wireless network point-of-sale machines and kitchen printers. Orders are sent directly to the chef, streamlining the dining experience,” he says.

Outdoor experiences are a balance of experience and expense.

Sangya highlights a shift towards lighting solutions and unique outdoor experiences. “Budget constraints can challenge the design of solutions for poolside parties and outdoor events, and the real test is in striking a balance between providing the desired experience and managing costs. Permanent setups can be expensive, so finding flexible and affordable solutions while maintaining quality is key,” she says.

AV is foundational to the guest experience

Hotels are increasingly recognizing the importance of planning AV systems from the very start. “Many now involve design consultants to plan and design AV systems alongside architects. Experienced operators ensure timely provision for cabling, making it easier for system integrators to plan and execute effectively. Good acoustics are crucial, and engaging a reliable AV consultant is vital for a great audio experience,” says Rituraj.

According to Sangya, the design process for AV solutions has evolved significantly. “Besides traditional AV, clients are exploring innovative technologies such as merging AV setups with projection mapping and lighting effects. They also discuss the required equipment’s design and load capacity.”

Raja also highlights the importance of carefully analyzing every space and

requirement to design the right solution for a hotel. “Nowadays, there is a significant emphasis on providing good acoustics in every space, leading to substantial investment in this area. Additionally, there is an increased focus on security and meeting environmental requirements, a notable shift from before,” he says.

The integration of AI, robotics, and personalization will transform guest experiences

Raja observes a lot of interest in artificial intelligence (AI) but also some uncertainty. “AI performs well with a strong network and has benefits like creating “wow” experiences, energy savings, lighting, and building management systems. However, implementing AI in a hotel requires substantial network infrastructure, and the numerous robot navigation sensors pose a challenge, especially in open spaces,” he says.

Sangya also shares her experience. “Technologies like AI, AR, and VR are being discussed, but there is still uncertainty about their applications. We see a growing global interest in humanoid robots that can greet guests, interact with them, and guide them to their rooms,” she says.

Rituraj notes that hotels are embracing hyper-personalization to customize guest experiences. “This involves utilizing technology-based micro-segmentation to customize every guest interaction in real-time, like eliminating fixed check-in/check-out times and customizing room amenities like lighting. Hotels want to develop this intelligence and seek cloud-based solutions to enable this personalization. AI will eventually power these efficiencies, but it will take some time to become a reality,” he explains.

As the hospitality industry grows by leaps and bounds and all these factors converge, AV technologies will pave the way for personalized, immersive experiences that will unlock a new world of exciting opportunities for customers and hotels alike.



“New add-ons are becoming available, and customers are seeking customizations, helping us better understand how to integrate these new features and provide added value. Standalone AV technologies are now integrating with IT, requiring a thorough understanding of both for successful integration.”

Rituraj Bajaj
Vice President, Zerone
Technologies Pvt. Ltd

Hear it. Believe it.



Here's a checklist to see if your audio matches with your Hyflex or hybrid learning/conferencing environment

1. Full-room audio coverage



- Are voices picked up throughout the entire space?
- Can speakers present naturally, including using the whiteboard, without encountering audio dead zones?
- Can participants be heard no matter which direction they face or where they sit or stand?
- Does the system block out distracting noise from HVAC systems or projectors?

2. Audio pickup zones



- Is the system designed for different modes of presentations, such as lectures or discussions?
- Is it easy for participants to toggle between the different pickup zone options during their presentation?

3. Continuous autocalibration



- Can you rearrange seating for different scenarios without IT needing to recalibrate the system?
- Will additional components need to be purchased for different room configurations?

4. No handheld or lapel mics



- Does the system minimize time spent charging microphones or managing batteries?
- Can remote participants hear speakers without them needing to wear or carry a mic?

5. Built-in speakers



- Does the system include speakers that let remote participants be heard by those in the room?
- Can the system's speakers be used for playback of video and audio recordings?

6. Easy installation and maintenance



- Is it simple to install the system, without requiring a complex array of components?
- Can you handle installation in house without needing specialized skills or tools?
- Can installation be done quickly so there is little downtime?

7. Integrates with other products



- Is it easy to connect the system with participants who bring their own device?
- Does it work well with your cameras, lecture capture software and other peripherals?
- Will it easily integrate with your existing UC&C platform?

8. IT management tools



- Does your purchase include cloud-based tools so IT can remotely manage large deployments?
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ONLINE INSTRUMENTS

marks 30 years of spectacular success



From its humble beginnings as a telecommunications distribution company in 1994, Online Instruments India Pvt. Ltd. is today a leading systems integration and audio-visual (AV) solutions company with a global presence. Offering a wide range of cutting-edge technologies, including AV integration, display solutions, lighting, and automation, the company has built its success on the foundation of the trust of its customers, its talented team of 500-plus employees, and a broad base of partners and suppliers.

The company is looking to the future with ambitious plans, including the set-up of India's first automated CKD (Completely Knocked Down) manufacturing unit, a global expansion to Western markets, and an upcoming IPO (Initial Public Offer) in September 2025, setting the stage for the company to embrace new opportunities for growth and change.

The desire to solve a problem one has experienced in daily life has inspired ideas for some of the world's largest companies. The story of how Online Instruments began is no different.

Shivanand Mahashetti, co-founder and CEO of Online Instruments, shares how it all started. "In the early 90s, Mahesh Bellad (current co-founder and CFO of Online Instruments) and I began servicing educational Institutions, specifically technical colleges, with the supply and service of test and measuring instruments. The equipment used to have many technical issues, which affected students often. We had the fire to build something new, so we started manufacturing this equipment ourselves. Our goal at the time was to achieve a turnover of 100 crore by the time we turned 70. However, through hard work and by the grace of God, we have surpassed that target."

With three partners on board, Online Instruments then started the telecommunications product distribution business in parts of Karnataka. "Recognizing our potential, Panasonic approached us to become their sole distributor for South India. We began importing and distributing products and expanded our offerings to include Polycom audio and video conferencing units, mobile phones, projectors, CCTV cameras, projector displays, and SIM cards," says Shivanand.

Building the AV division from scratch

In 2006, Online Instruments ventured into the AV solutions business. "Although we did not have experience in this space, we received a lot of support and trust from our corporate clients. We didn't make money at first, but we gained a lot of experience and confidence, which was invaluable to us." Shivanand explains that

From modest beginnings to industry leadership, Online Instruments celebrates three decades of growth with a bold vision for the future.

*Shivanand Mahashetti
Co-founder, and CEO of
Online Instruments*

bagging their first major project valued at ₹ 4.5 crores was a turning point. "This project taught us many lessons and helped us strengthen our presence in the AV industry," he explains.

Gradually, the company started expanding its offerings and purchasing AV accessories. Setbacks came disguised as opportunities, as Shivanand recounts how a frustrating experience with a supplier motivated him to start their own manufacturing.

Rising from the ashes

In 2006, the company faced a setback when one of its major partners retired, affecting its working capital and cash flow. However, the team overcame the situation.

The following year, another crisis struck in the most unexpected way. Shivanand shares his experience from that trying time. "In 2007, our office caught fire because of a short circuit. The fire caused significant damage to our stock and equipment, and we lost everything. Following this, we had to settle numerous claims, and the financial strain was immense. Everything seemed to have turned to ash, and it was a dark time for us. Our business did not decline, but the financial pressure caused us significant stress and sleepless nights," says Shivanand.

But there is always light at the end of the tunnel. "Once again, God gave us the strength to rebuild the business. We borrowed money and restarted, which gave us a fresh start in 2007," he reminisces.

Shivanand mentions that out of the 25 employees the company had, 19 are still with them. "At Online Instruments, our team is a family, built on relationships and a decentralized decision-making approach. We strive to create a respectful and inclusive environment for everyone," he adds.

The birth of LOGIC: Lighting up the world with visual transformation solutions

In 2006, LOGIC was set up as a brand of Online Instruments Pvt. Ltd., offering customers a wide range of AV accessories and display solutions. Pankaj Bellad, Director of Online Instruments and Business Head of LOGIC, shares, "Initially, our focus was on projector screens and mounting solutions, and over time, we expanded to offer a comprehensive range of AV accessories to meet customer needs."

A proudly Indian company with a global footprint, LOGIC serves three market segments. Pankaj elaborates: "In the enterprise business, we offer a diverse range of accessory solutions and LED Display Products aimed at creating workplaces of the future. We recently introduced the 138" single AIO (All-In-One) displays, and we will be the first in India to introduce the innovative COB (chip-on-board) technology AIO displays."

The booming Indian education market is also significant for LOGIC. "In education, we focus on interactive displays. We plan to start manufacturing in India, making us the second-largest player in the world in terms of automation. Our AR and VR business has yet to gain momentum, but it will happen in time as we see it as a business of the future," shares Pankaj.

"Third is the retail segment with a product line of signage products. We do a lot of digital branding for merchandise showrooms and work with nearly 80+ brands. You can see our displays at Terminal 2 of the Bangalore Airport. We also work with a few digital signage software brands exclusively to build a complete solution," he highlights.

In 2019, the company launched the LOGIC Displays Customer Experience Centre in Bangalore, India's largest experience center for active LEDs. Pankaj explains that this Experience Centre allows their customers and partners to bring their clients and provide them with a hands-on experience. "This approach sets us apart, offering a live working product experience rather than just a picture or catalog."

"In the next few months, we plan to introduce new innovative technologies to the Experience Centre that will give our customers and partners a glimpse of tomorrow's technology today," adds Shivanand.

Harnessing opportunities for diversification and growth

After more than a decade in the business, the company began to consider diversifying its line of business. "We





Pankaj Bellad
Director, Online
Instruments and Business
Head, LOGIC

wanted to explore new opportunities and focus on manufacturing. Ultimately, we decided to start a lighting business," says Shivanand.

"In 2015, we started importing lighting products under the Orange Plus brand for the retail and institutional segments. Mahabell Industries, a 100% subsidiary of Online Instruments, began in 2017, making our dream of setting up a world-class electronics manufacturing facility for domestic and international markets a reality. Located in the ITI Industrial Estate in Whitefield, Bangalore, the factory spans 50,000 sq. ft. across five floors."

In 2016, the company engaged EY as its consultancy firm, who recognized the company's potential for growth. "This inspired us to take the company public, which could accelerate our growth from a 10-year timeline to 3 years or even less," says Shivanand.

Things began to change with the onset of the COVID-19 pandemic. "The pandemic significantly impacted our IT customer base, leading to a decline in revenue and minimal growth for the first time in our company's history," explains Shivanand.

Empowering communities

Online Instruments is passionate about creating inclusive learning environments for rural students to thrive through technology. Pankaj explains how the company is driving positive change. "We are transforming learning environments in underserved schools by providing modern technologies like displays and smartbooks, infrastructure and facility improvements, and sports equipment. Recently, we donated a high-end telescope, which we believe is the first for any school in the area. We have adopted 30 schools in North Karnataka to provide international education standards to rural communities."

Shivanand emphasizes the company's commitment to providing equal job opportunities, particularly in rural areas where such opportunities are scarce. "We conduct campus recruitment interviews in these areas, and many people begin their careers with us as freshers," he says.

A bold vision for the future

After three decades in the business, Online Instruments is pushing the boundaries with ambitious plans for the future. Shivanand shares their vision: "Our vision is to become a global company, reaching as many people as possible worldwide. We are not limited to system integration or manufacturing displays; we want to go beyond that. Our goal is to be a major player on the global stage."

Tapping into the capital market will be a critical enabler for this vision. Shivanand shares their plans to take the company public in FY 25-26, possibly in September 2025. "We will be India's first system integration company to go public. This move will open up multiple opportunities to expand our business and enter larger markets like the U.S.," he adds.

The company currently has offices in 6 cities in India and operations in the Philippines, Singapore, Dubai, Saudi Arabia, and Taiwan. "After the IPO, we

plan to set up offices in the U.S. with a focus on our systems integration business, the sale of our own branded products, and ODM (Original Design Manufacturer) branded products. We also aim to expand to Europe, Australia, and other potential countries to establish our presence further."

The company will also start a new factory in Dabaspete, Nelamangala, Bangalore. "This will be India's first and the world's second-largest automated CKD factory manufacturing interactive commercial panel display units. Employing over 150 people, the factory will produce 100,000 panels annually. The factory will open formally in mid-August this year, and we are thrilled to showcase the factory to the world," explains Shivanand.

"As part of our plans for Mahabell Industries, we plan to create unique AV products, such as pods (AV Frames for Collaboration Spaces) and retractable cable managers, for the global market. We are also expanding the factory to have one integrated end-to-end manufacturing facility in one location, aiming to create the factory of the future," highlights Shivanand.

Another core focus is building strength in software development, emphasizes Pankaj. "We are investing in building capabilities, skills, and new talent. Initially, we will use this software in-house and eventually make it available to customers in the future," he says.

With these ambitious plans in the making, Shivanand concludes by saying that the company's journey thus far is just the trailer to the main movie, with the première of the anticipated IPO marking the start of the show.

A true pioneer with a rich legacy of achievements, Online Instruments is all set to make a mark on the world and bring the best of 'Make in India' products to global markets. As the company embarks on this next phase of its journey, we wish them the best and look forward to witnessing them soar to greater heights.



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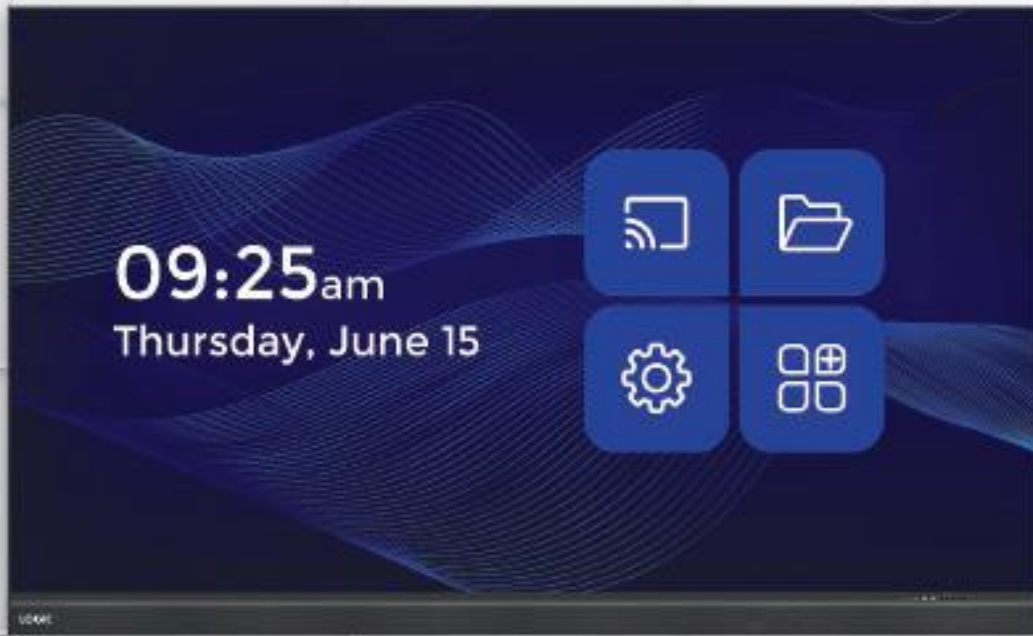
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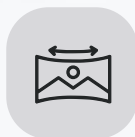
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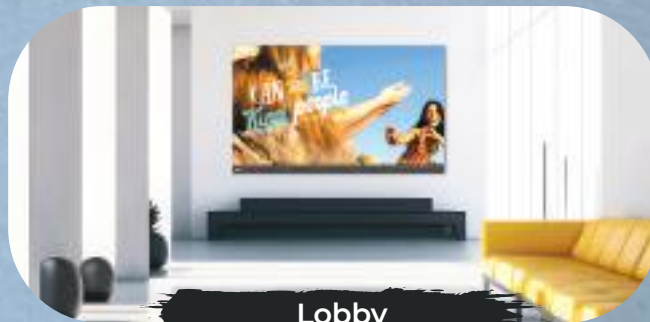
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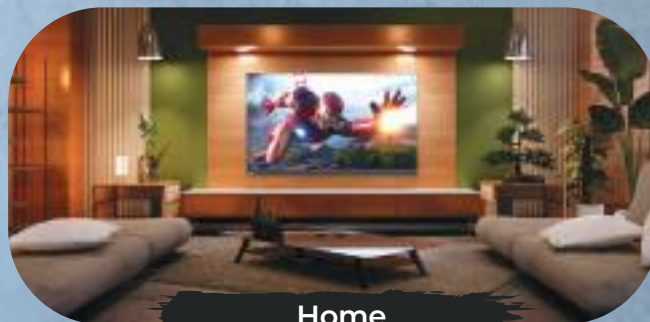
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MYSTIQUE MAYONG ECO RESORT

Elevating the guest experience in the lap of nature



Mystique Mayong, a new luxury eco-resort near the Pobitora Wildlife Sanctuary in Assam, known for the greatest density of one-horn rhinoceros worldwide, opened its doors to guests in late 2023. The resort collaborated with AdvaTech Solutions on the project's audio-visual (AV) design and deployment.

Kaustav Kalita, director of sales and operations at Mystique Mayong, shares more about the resort's unique location and vision. "Our resort is situated in Mayong, India's tantra capital and a hidden gem in history, but its charm is slowly fading away as few know about this place. Being close to the Sanctuary and a slight detour from the usual Northeast India itinerary, we established a luxury resort to draw attention to this place filled with wonders. The AV systems in the resort spaces have taken our events to the next level, providing crystal-clear

audio that elevates every moment for our guests," he says.

Tapping into a lucrative market

Avijeet Chanda, Partner at AdvaTech Solutions, explains that the clients decided to construct a luxury property in Mayong to tap into the booming tourist market and the demand for destination wedding venues and conferences from Guwahati and the country's Northeast region.

Avijeet highlights that most hotels in Guwahati, an hour's drive from the resort, rely on rented AV systems for their events. "To avoid any dependencies, the client wanted to create a permanent AV system setup to cater to the needs of the luxury tourist segment, destination weddings, conferences, and such. They wanted a high-end yet affordable

solution to provide an attractive and soothing audio experience throughout the resort."

"We got off to a good start because I already had a previous working relationship with the parent company, BMG Informatics Pvt. Ltd., mainly in the IT business. This was their first venture into the hospitality sector, and the client trusted us to deliver on the goals and deadlines of the project because we had worked together on several AV projects in the past," he explains.

Off to a great start

The Mystique Mayong project was extensive, spanning three blocks with multiple spaces within each block. Avijeet shares that AV systems were planned at the very start of the project, and he had a full view of the architectural plans. "The architect had taken excellent care of the acoustic aspects of the spaces. After carefully analyzing all the spaces, I had a detailed discussion with the client, explaining how each building would be connected and how communication would be established. The client approved the proposed solution, and we completed the installation by setting up a temporary camp where our team worked around the clock to deliver the installation in time for the resort's inauguration," he explains.

A seamless blend

The Mystique Mayong property is designed in a U-shaped layout. Upon



entering, you will first encounter the Plaza Block, followed by the Hotel Block, the playing area, the swimming pool, and finally, the Club Block. Specific lifestyle spaces in the resort, such as the Tea Lounge and the indoor and outdoor bar, are key attractions.

Avijeet first tells us about the main restaurant, an approximately 800 sq. ft. space on the Plaza Block's first floor. "For the restaurant, we placed QSC AD-S. SAT 2.5" Satellite ceiling speakers around the restaurant in combination with QSC AD-S.SUB 6.5" Dual voice-coil ceiling subwoofers. This distributed audio setup worked well in creating a soothing and relaxing vibe in the restaurant for the guests," says Avijeet. QSC satellite speakers were chosen as they were best suited for BGM (background music) applications that require depth and clarity, even at lower volume settings.

The hotel boasts a tea lounge, which is no surprise given that Assam is the country's largest tea producer and globally renowned for its richly colored and aromatic tea. "The Tea Lounge was designed as a space where guests can relax and experience an exquisite variety of teas. We have used QSC AC-C4T-WH ceiling speakers powered by a QSC SPA 2-60 amplifier, which does a great job of creating a relaxing ambiance with light background music," says Avijeet.

With the country's North East region witnessing a steady increase in MICE (meetings, incentives, conferences, and exhibitions) activities, destinations like Guwahati and its surroundings are becoming upcoming hubs for hosting corporate and regional conferences. "The

resort set up a conference room and an exhibition space to cater to this growing market," says Avijeet.

The conference room at the resort was designed to accommodate about 20 people. "We have equipped the conference room with Sennheiser's EWD Series wireless microphones, QSC AC C 4T-WH ceiling speakers, and a QSC SPA 2 60 amplifier; the QSC ceiling speakers provided ideal foreground audio for the conference room setup," highlights Avijeet.

On selecting Sennheiser microphones for the conference room, Avijeet shares, "Sennheiser wireless microphones are among the finest in the market, and we chose them because of their stellar



sound quality and durability."

For the exhibition area, typically used for handicraft fairs and events, Avijeet opted for the QSC AC S 4T-WH ceiling speakers due to their versatility in various audio/video, conferencing, and background music applications.

In the outdoor garden space, TOA GS-302 speakers blend into the lush green surrounding landscape. When asked about the choice of TOA for the speakers for the garden area, Avijeet says, "I have installed TOA speakers before and found them to be sturdy, cost-effective, and readily available in the market."

Two QSC TSC-47W-G2 touch screens provide state-of-the-art control of the

Q-SYS system installed at the resort. Avijeet explains, "The staff at the restaurant can use the touch screens to select and play music throughout the day and into the evening. Depending on the mood, we have also curated different playlists for all the spaces, like the bar, the restaurant, and the lounge areas. So, for instance, if someone wants to hear soothing music or maybe celebratory music for birthdays, they can choose from a wide selection of songs from these playlists."

On the decision to go with QSC for most parts of the AV system, Avijeet says, "I have used QSC speakers for over a decade, along with many other brands. I wanted durable and reliable speakers in the long run. When it comes to service, QSC stands out because they are very responsive, and their products typically last for 10 or 15 years without needing much servicing. It has been a great experience collaborating with the QSC team on this project; they have been very helpful and have provided guidance when needed at every step of the project.

The acoustics in all the spaces are excellent because local products, such as bamboo, were used in the interior. "Bamboo as a material is aesthetically very pleasant because it lends a natural vibe to the space, and acoustically, it is very good. The architect, who is also from the Northeast, had a good understanding of how to use these local materials, which resulted in great acoustic performance," he elaborates.

"Post-installation, the design required no major rework, just some minor adjustments in the programming, which were promptly made based on the client's feedback," he adds.

Control and connectivity

The QSC Q-SYS Core is the backbone of this installation. "We have two cores in this installation, one in the Plaza Block and the second in the Hotel Block. These two cores are connected internally and work as a single core. The first core in the Plaza Block controls the spaces in this block and the playing area. The

Case Study

second Core in the Hotel Block handles the outdoor speakers, corridor speakers, and restaurant. Initially, the two buildings' distance apart was a challenge in the installation, but this was addressed by connecting them with a fiber optics network. This is how the different spaces are controlled and connected together," explains Avijeet.

By combining the two Cores, the systems can exchange data with each other, allowing for centralized control of the entire resort. "With this flexible and versatile system, the manager can fully control the entire AV system using a single iPad or touchscreen, making it easy to change music or volume levels in the different spaces within the resort. Thanks to the guidance from the QSC team, we designed the User Control Interface (UCI) to control the combination of the two buildings," says Avijeet.

The tough part

Avijeet narrates, "We began designing the AV systems during the construction stage, which was challenging because we had a tight deadline, and construction was happening side by side with our deployment. We were laying cables

and installing speakers while rooms were being finished, and protecting the speakers from moisture and dust was difficult for us. Other than that, we have not faced any challenges with the structures in terms of acoustics. They have designed it well, and the sound quality is good."

A greenfield opportunity

Avijeet is optimistic about the opportunity in Northeast India, not just in the hospitality industry but in other areas, like hospitals, considering the massive surge in medical tourism. He says, "The hospitality industry in India's Northeast region is experiencing tremendous growth, particularly in tourism. This part of the country has much to offer in terms of tourism, and many hotel chains are looking to expand their presence in this market. With a large hospitality property currently under development in Kaziranga, alongside multiple new projects in Guwahati, the region holds a promising future for the industry. Hospitality projects like Mystique Mayong are just the beginning; we have huge potential in the Northeast, which will also create

greater business opportunities for the AV industry in the near future."

Satisfied with the project's outcome, Avijeet says, "It's been nine months since the AV systems were installed; the clients are happy with the performance and its ease of use, and there have not been any complaints about breakdowns or performance issues. Additionally, the client was pleased as there was no deviation from the existing plan regarding pricing or the products, and the AV installation was supplied and implemented as per the BOQ (Bill of Quantities) with no changes. We have also received positive feedback from some of the guests I met who have visited the resort."

Avijeet concludes, "We started our company, Advatech Solutions, in 2021, and this marks our first major project in the hospitality industry, so we are thrilled about the outcome of this project."



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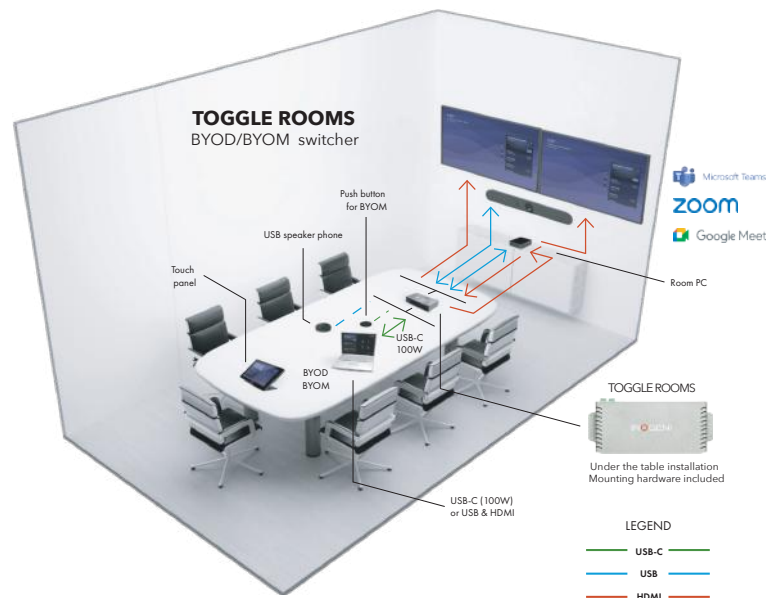
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FROM DRUMMER TO TECH INNOVATOR

*The Inspiring Journey of Willis Desai
and the Haptique RS90*

“An AV systems integrator from Ahmedabad is today a proud entrepreneur whose product – Haptique RS90, a universal remote hub for smart homes – is ready to hit the global market. Willis’ journey has been far from smooth, and he had to move to France to raise money and launch his product. He speaks to AV Today about the hurdles he faced and how he managed to get around them.”

Willis Desai has always had a penchant for music and technology. He started his journey as a teen drummer in his church choir, dreaming of becoming a professional musician. By 2008, he was playing for garba events and local functions, earning a few hundred rupees.

Willis kept learning – the fundamentals of Indian and Western classical music and how to use technology in music – and in 2009, he became a professional drummer, a music conductor, and a recording artist.

His day job at Yamaha AV Square in Ahmedabad involved selling musical instruments and handling pro audio equipment, Yamaha mixers and studio monitors. On weekends, he dabbled in music production, mixing, and mastering for local studios. All this sparked a lifelong interest in audio engineering.

Willis’s ability to address customers’ audio needs led him to join a local system integrator in 2012, where he designed AV systems. A severe accident and bouts of typhoid later, he worked with Qubix Technologies in Bangalore, honing his skills there before returning to Gujarat.

The Birth of Cantata

In 2013, Willis’s entrepreneurial spirit led him to establish Cantata Communication Solutions, an AV consulting and system integration company. Starting with just two people (they are now 17 strong), Cantata focused on turnkey projects ranging from discotheques to corporate offices. Willis also developed a deep understanding of acoustics, learning how sound travelled without modern sound systems in ancient churches.

Cantata was soon considered the best system integrator in Gujarat, delivering high end projects for Reliance Industries, Adani Shantigram, Gujarat Tourism, Red Cross, various Municipal Corporations and others. Willis won a large project to redesign the sound and light show for Jallianwala Bagh’s 100th anniversary, employing cutting-edge technology for an unparalleled audio-visual experience.

By now, Willis and his



team excelled in audio, visual, lighting acoustics and control systems. Armed with this expertise, he came up with an idea for developing a product for home entertainment in 2022. He set up a proof of concept (POC) for Haptique.

The Haptique RS90: A Game-Changer in Smart Home Technology

Around this time, Logitech discontinued its Harmony remote, leaving a gap in the market that Willis wanted to capitalise on. "Why not replace Logitech Harmony?" he thought. World over, remotes were giving way to voice assistants, but there was still a market for a single universal remote that was simple, affordable, and could connect with legacy devices as well as futuristic technology, he believed. This led to the conceptualisation of Haptique RS90, a universal remote controller that could seamlessly integrate legacy devices and modern smart technology using the familiar Android platform.

Turning this into reality however, was challenging. It was difficult to get the necessary funding in India. Willis also understood the market enough to realise that a universal remote controller would be better accepted and adopted in the western world than in India.

A chance visit to France changed Willis' fortunes. He discovered the La French Tech visa program, a multi-year residence permit for foreign entrepreneurs, investors, and employees in the tech and innovation sectors and registered for it.

Applicants had to have a good concept which would be approved by one of the 15 listed Government consultants, called incubators.

Only three of the incubators showed any interest in IoT as a technology. One got back to him after seeing his 3D model and detailed plan. Willis remotely collaborated with the company for three months for a fee of 600 dollars a month. With his product officially "under incubation", he applied to the French government for a

visa. He had to fill in a detailed government questionnaire, explaining why he chose France, how it would benefit the country, whether he could make the cultural shift and his knowledge of France's geography and economy.

Finally he got a free start-up visa for himself and his family. He set up his new company in France, with initial investment from India as ODI (Outward Direct Investment).

Willis' software team in India included



an IoT consultant, web developers, application developers and backend server developers.

The Haptique RS90 emerged as a sleek IoT device, intuitive remote capable of supporting over 7,000 major brands and platforms. It employs infrared, Wi-Fi, and Bluetooth to control a wide array of smart home and entertainment systems, delivering a seamless user experience. The remote's support for protocols like Wi-Fi, Bluetooth and Infrared ensures that it remains versatile and future-proof, adapting to the evolving landscape of smart technology.

The Haptique RS90 is more than just a remote. It embodies Willis's vision of integrating physical buttons and digital technologies into a single, user-friendly platform, replacing the over dependency on smart phones in today's modern smart home ecosystem and simplifying everyday life of users.

Crowdfunding Success and Future Plans

Funding was a major obstacle in Willis's journey. He invested all he could raise

personally into the initial hardware design and development. Further funding in India became a challenge -- venture capital was limited and local investors were not interested in hardware start-ups.

He and his wife had poured in all their savings into setting up Cantata in France with an initial investment of 1.25 crore rupees. However producing a high-quality universal remote like the Haptique RS90 on a global scale would need additional funding.

Even in France, investment in hardware technology wasn't forthcoming. Willis tried unsuccessfully for bank grants and



loans. Willis began to explore alternative avenues to bring his product to market.

A B2B partner who was an RTI (Remote Technologies Incorporated) distributor was interested in the product. However, he wanted to see samples before committing any investment. This meant running a production batch of at least 200 units with an investment of Rs 35 lakh that Willis didn't have.

Willis finally zeroed in on Kickstarter, a popular crowdfunding platform as a possible funding alternative.

The process needed meticulous planning and execution. The success of crowdfunding hinges on a 2 minute video campaign showcasing the idea on the platform. Creating video alone cost around Rs 20 lakh.

Being the resourceful person he is, Willis bought a camera, wrote his own script, and together with his wife, began to shooting in India. Using AI tools, he produced a high-quality video that effectively conveyed his vision for the Haptique RS90.

The next step was to reach and engage with the right audience. Fortunately, an Armenian company, The Crowdfunding Formula (TCF), which had watched the Kickstarted took an interest in the Haptique RS90. TCF provided invaluable

insights and support, suggesting optimal campaign launch timing and social media buzz strategies.

The efforts paid off remarkably. The campaign exceeded its initial target of 9,000 Euros within twenty minutes. Within a month, it had raised over 300,000 Euros, with projections suggesting it could surpass 1 Million Euros by campaign end. This success not only validated Willis's vision but also provided the financial backing needed to scale production and meet growing demand for the Haptique RS90.

The first batch of products should be ready soon and Willis has ambitious plans for the future.

The story of a boy from Ahmedabad who overcame all odds to transform an idea into a global product from a company incorporated in France, manufactured in China with software developed in India is a testament to Willis Desai's innovative spirit, hard work and relentless determination to make his dreams come true.

How crowd financing worked for Willis

- Picked a crowd funding platform, Kickstarter
- Created a two minute video advertisement describing idea
- Identified interested buyers and sent them targeted emails
- Declared the total amount to be raised—9000 euros
- Enlisted help from The Crowd Funding agency to run ads
- Offered buyers a “reward” – a product at a heavily discounted price
- Reached his goal of 9000 Euros within 90 minutes; reached 350,000 euros at the time of writing
- Will have to pay 5 percent as platform charges to Kickstarter and 3 percent for the payment process platform
- Expected to touch 1M Euro by end of the Campaign
- All the money collected goes into manufacturing



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KOLKATA'S AMPM CAFE ADDS SPARKLE WITH BRITISH SOUND



Kolkata's Park Street is known for a couple of things – great food and even better nightlife. Often referred to Shaheb-e-Para, or the “Neighborhood of Englishmen” in Bengali, this quaint street in the middle of what was the heart of the erstwhile colonial entertainment district still carries a charm of a bygone era. An era when the sahibs with their memsahibs descended on this neighborhood for their weekend soirees.

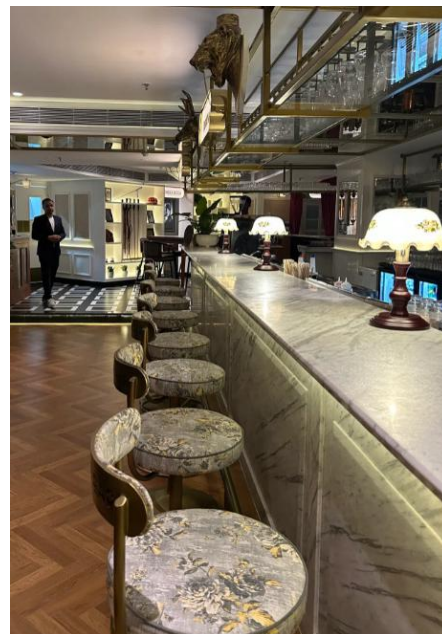
Even in the swinging 60s and 70s, Park Street was synonymous with live bands, great dining options and a favorite stop of many western Jazz and Rock & Roll artistes.

It's only fair then to bring back some of the old-world charm, infused with a touch of modernity into the already bustling nightlife scene, stiff upper lip notwithstanding.

AMPM café does exactly that, with an all-day café concept that transforms into a vibrant Pub/Jazz club by sundown. The interior is lush and opulent, exuding a quiet unassuming vibe, embellished with period furniture, art, books, and knickknacks. The curated menu is both contemporary and avantgarde and

incorporates world cuisine as well as local favorites. The attention to detail is visible just as the choice of single origin coffees including one from Nagaland!

Come evening and the bar opens with its wide selection of wines, beers and spirits to go with delectable snacks that keep you coming back for more. The ambience is bright and cheery during the daytime, perfect for catching up with co-workers or for that quick power lunch with a work



colleague. The vibe slows down in the evening with lights turned down with a more laidback mood.

“Designing a sound system that matches the ambience and the daytime to evening concept was challenging” says Varun Dua of Bassline AV Technologies, Design-Build sound consultant/integrator for the venue. “Collaborating early in the process with the owners, the architecture firm and interior designer, understanding their vision and overall vibe of the place was critical in selecting the components of the system”, he adds. “Also given the need for a seamless changeover from a daytime café sound that needed to be programmed and had to run at ambient levels during day and transition to club levels during evening. The brief was simple - keep the venue engaging without the sound being too much in the face, the system had to be simple enough to be operated by the café staff during daytime and transform into a full-fledged live sound system. Come evening, the system had to transition to the demands of a live venue which would accommodate a jazz quartet at the bare minimum and accommodate a DJ during weekday nights. All this while making the system

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Case Study

visually unobtrusive while delivering the required punch. Understated yet energetic. Delicate yet powerful. Tough ask! All this without breaking a sweat... and the bank!" Varun says.

Bassline AV's Varun with the team from Generation AV, manufacturer's representatives for Martin Audio and NST Audio got down to the task at hand with designing an FOH system for the main stage, fills at the rear of the main dining area. This being the heart of the system, the team gravitated towards Martin Audio, a natural choice that could deliver a full range sound without distorting at high SPL levels. A pair of Martin Audio's Blackline X12 is installed horizontally from the ceiling on custom brackets with a pair of Blackline X118s subwoofers on the ground, delivering the low-end punch. Four Blackline X8s provide fills for the main dining area and at the island bar, with an additional unit of Blackline X118s providing bass reinforcement at the bar. Other areas include a balcony, a smoking zone and common areas which are served by eight Martin Audio Adorn A55T speakers.

The overall feel of the place is one that of luxurious understatement which the Martin Audio's sound signature amply conveys through its famed "British Tone" which is accentuated by NST Audio's VMX88 digital crossover and processor.

"We chose Martin Audio loudspeakers for its legendary British sound and NST Audio's processing just breathed new life into them! With an incredible dynamic range of 119dB (A weighted), we never seem to run out of headroom, be it a DJ set or a live band. This combination really elevates the sound experience to the next level" exclaims Varun with a wide grin. "Thanks to the 8x8 matrix in the NST Audio's VMX88, the changeover from live band to DJ takes a few seconds, so the party never stops".

As for the customers, they seem to be

enjoying the natural tonality and the clarity without it being overpowering. Be it a quiet Jazz track by Diana Krall or a full throated rock ensemble from Steven Tyler aka Aerosmith, both are delivered with equal aplomb thanks to the DEQ settings in the VMX 88 processor.

Rajan Sethi, one of the co-owners of the café/club is delighted. A seasoned restauranter and gourmand, his taste for fine things is visible from the attention to detail that has gone into everything from the décor to the lighting to the menu. "A sound system needs to match the



ambience of the venue and we've been lucky to work with Bassline from the beginning. Varun and his team engaged with us early, understood our requirements and wrote the specifications for what initially seemed to be less for a venue of this size. We were a bit concerned given that the speaker counts seemed less at the beginning. However, once the system was installed, commissioned, and tested with full capacity crowds, we are now fully satisfied with the sound quality. Bassline AV then helped us with the fine tuning of the sound and helped with the presets for

daytime and evening, my team tells me that the system is very simple to operate, and all the complexity has been hidden, which is a very good thing! Kudos to Bassline AV for getting this spot on!"

A quick visit to the venue in the afternoon reveals the versatile nature of the sound system. Strains of Jazz and instrumental music set the mood for quick gourmet coffee paired with artisanal pizza. Office goers with laptops in totes stream in and out, engrossed in work while the odd table is occupied by a couple, holding hands, looking wistful, all while Norah Jones huskily croons away on the PA.

The venue transforms quickly as the tables are set for evening service and the ambient light drops a few shades to golden hues of ochre. Music also changes with jazz making way for light electronic ambient. A show by a local band is scheduled. It's an only by invite event and the who's who of Kolkata's elite are on the invite list.

As patrons stream in, we quickly pop backstage to take a look at the technicals. A Pioneer DJ unit provides signal source into NST Audio's VMX 88, amplification and stage monitors are from QSC and processing is NST Audio

The band does a quick sound check with the trusty Beatles "Come Together" number. Lead guitar, Bass, Drums and keys and a couple of Vocal mics complete the setup. All good.

The band gets warmed up and is now belting out John Mayer, Dire Straits, Fleetwood Mac and a medley from Beatles' Abbey Road as we saunter towards the bar. The mixologist advises me to try the house special, a Martini cocktail. Shaken, not stirred, I tell him in my best Bond impersonation. Nonplussed, he hands me my blood-red drink in a goblet – with an olive thrown in for good measure. After all, we are listening to British cover band out of British speakers, with British processing. Licensed to thrill indeed!



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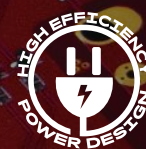


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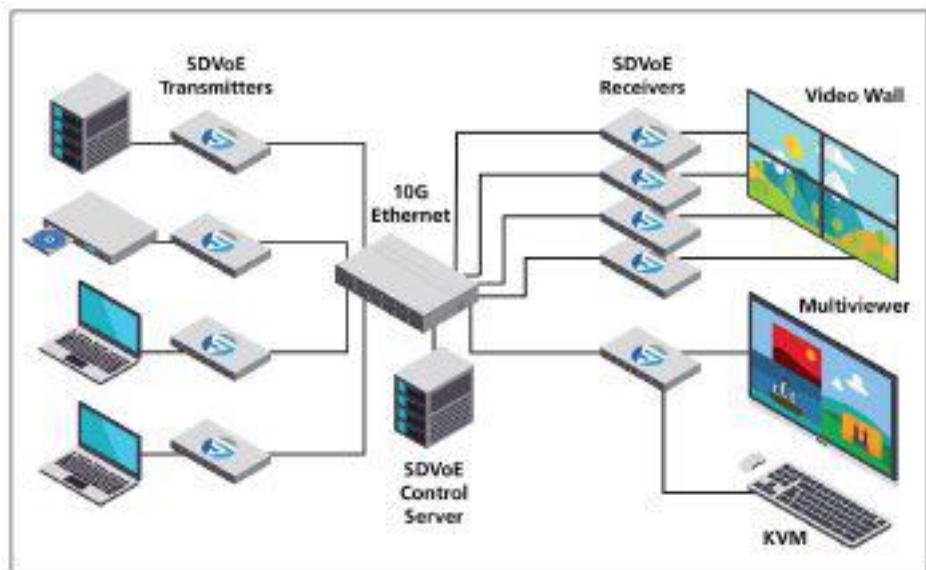
The Future of Audio-Video Technology

The topic of AV over IP (AVoIP) has been a cornerstone of discussions within the AV industry for years. Significant advancements have been made in both products and solutions, with various installations showcasing considerable benefits. This strengthens the argument for the widespread adoption of this technology. While challenges exist, they can be effectively mitigated through proper planning and expert recommendations. This article aims to share insights and knowledge about AVoIP with the broader AV industry audience.

The audio-visual (AV) industry has historically relied on traditional signal transmission methods such as HDMI, SDI, and analog cables. However, technological progress has introduced a major shift. AVoIP is reshaping how audio and visual data are transmitted, managed, and utilized across various sectors.

AVoIP involves using standard IT network infrastructure to transmit audio, video, and control signals. Unlike traditional systems that depend on dedicated AV cables and hardware, AVoIP uses Ethernet networks to distribute signals. This approach provides more flexible, scalable, and cost-effective solutions, integrating AV systems with IT networks to create a unified and efficient infrastructure.

One primary advantage of AVoIP is its scalability. Traditional AV systems are often constrained by the number of available inputs and outputs on a matrix switcher. AVoIP, on the other



hand, enables virtually unlimited scalability. Using standard network switches and routers, organizations can expand their AV systems without investing in additional hardware. This flexibility extends to signal routing, allowing content to be directed to any display or endpoint on the network. This adaptability is particularly beneficial in environments such as corporate offices, educational institutions, and large venues where AV requirements frequently change.

Implementing AVoIP can lead to significant cost savings. Utilizing existing network infrastructure reduces the need for specialized AV cabling. Additionally, the ability to easily scale and reconfigure systems without extensive hardware changes further lowers long-term expenses. Centralized management of AV systems becomes

simpler with AVoIP. Administrators can monitor, control, and configure devices remotely through software interfaces, improving efficiency and reducing maintenance efforts. Advanced features like real-time diagnostics and automated updates enhance system reliability and performance.

AVoIP promotes interoperability between different devices and manufacturers. The use of standard protocols and formats ensures that various components work seamlessly together, providing greater choice and flexibility in system design. This versatility makes AVoIP suitable for a wide range of applications. Boardrooms benefit from streamlined integration, while conference rooms and huddle spaces enjoy easy scalability of AVoIP systems. Multi-room setups and digital signage are managed effortlessly over

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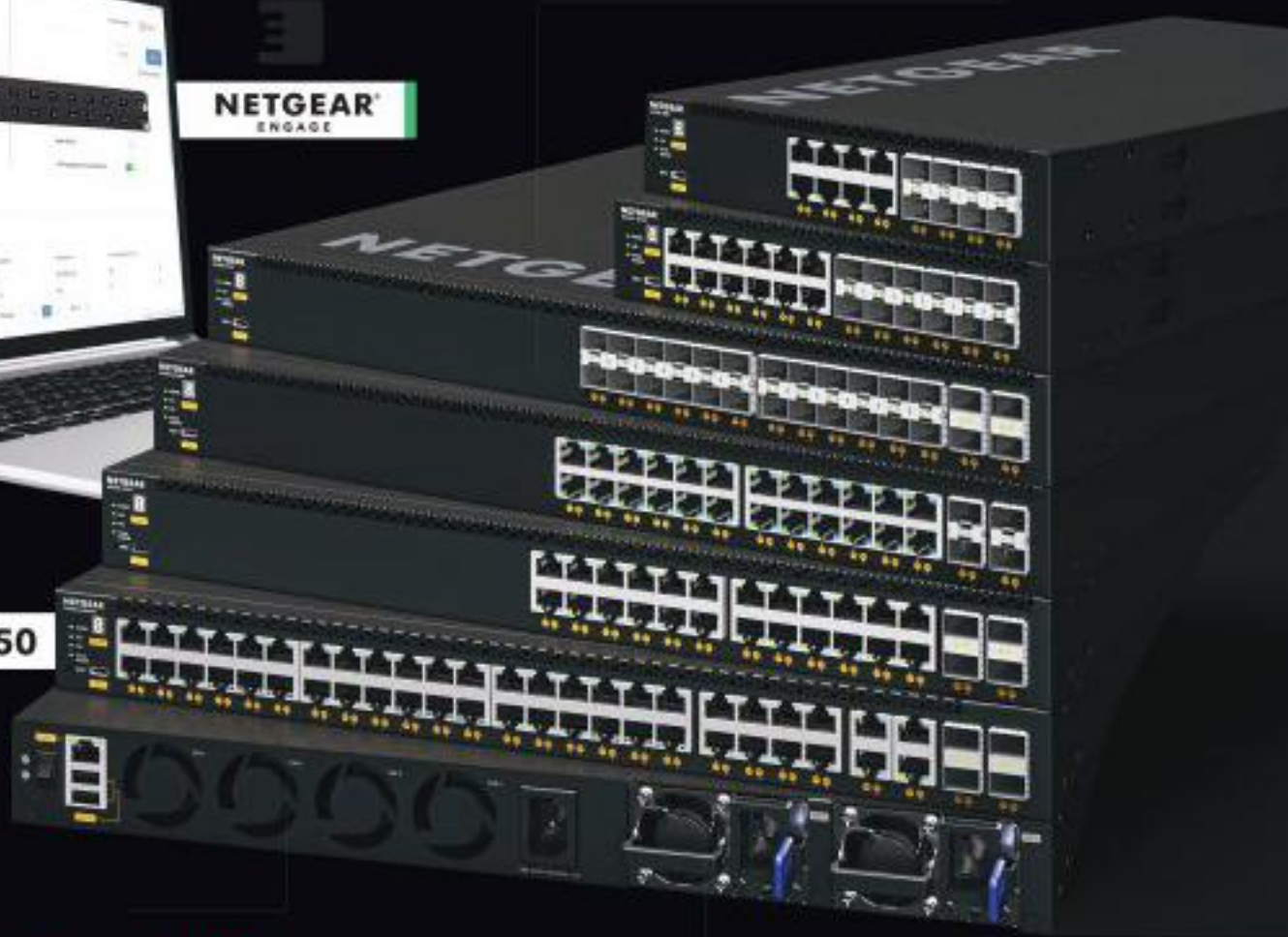
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the network. Classrooms, lecture halls, and campus-wide AV systems can leverage AV over IP to enable interactive learning experiences, remote teaching, and efficient content distribution.

Hospitals and medical facilities use AVoIP for telemedicine, digital imaging, and patient monitoring, ensuring reliable and high-quality AV transmission. Large venues like stadiums require robust and flexible AV systems, and AVoIP supports the complex routing and distribution needs of live events and broadcast environments.

While AVoIP offers numerous advantages, there are challenges to consider. High-quality AV over IP requires a robust and well-maintained network infrastructure. Bandwidth, latency, and network security are critical factors that need careful planning and management. Proper bandwidth calculations are essential, and applications with high latency sensitivity might require special considerations. Implementing and managing AVoIP systems demands a certain level of technical expertise in both AV and IT domains. Training and knowledge transfer are crucial for successful deployment and operation. Although AVoIP promotes interoperability, ensuring compatibility between different devices and standards can still be challenging. Choosing equipment that adheres to widely accepted protocols and standards like IPMX, SDVoE, AES 67 are important. Since AV equipment typically operates on corporate networks, stringent network security protocols and certifications must be followed by OEMs to safeguard against potential vulnerabilities.

The adoption of AVoIP is set to accelerate as more organizations recognize its benefits and the technology continues to evolve. Innovations in network technology, such as 5G and advanced compression algorithms, will further enhance the capabilities and performance of AVoIP systems. AVoIP is revolutionizing the audio-visual industry, offering a

flexible, scalable, and cost-effective alternative to traditional AV systems. As technology advances, AVoIP will play an increasingly vital role in shaping the future of audio-visual experiences across various sectors. Embracing this technology not only enhances operational efficiency but also opens new possibilities for innovation and creativity in the AV landscape.

The potential of AVoIP in India:

A Scalable and future proof AVoIP solution has a great future in Indian market. While a 1GB solution may initially appeal for its cost-efficiency, opting for a 10GB solution can enhance scalability and future-proof the system. Many 1GB solutions are proprietary, which can limit flexibility for future changes, whereas a 10GB solution provides clients with freedom from proprietary constraints. This opens up opportunities for IT Managers to explore the AVoIP space further, making it prudent for AV Integrators to educate clients about this advanced and future-proof solution.

Corporate projects often present challenges such as budget constraints and tight deadlines, requiring Consultants and Integrators to emphasize the benefits of superior options and educate their clients. This approach not only builds trust with clients but also positions them to realize significant savings on replacement costs in the future.

Why is the 10Gb a better option than the proprietary 1Gb option

Switching from a proprietary 1Gb option to a 10Gb option in AVoIP can offer several advantages:

1. **Higher Bandwidth:** 10Gb Ethernet provides significantly higher bandwidth compared to 1Gb Ethernet. This allows for the transmission of higher resolution video and audio streams, which is crucial in AV applications where clarity and fidelity are important.

2. **Support for Multiple Streams:** With 10Gb Ethernet, you can transmit multiple uncompressed or lightly compressed streams simultaneously. This is beneficial in scenarios where multiple displays or sources need to be managed without compromising on quality or introducing latency.

3. **Future-Proofing:** As AV technology advances, resolutions and requirements for bandwidth increase. Opting for 10Gb now ensures your system is more future-proof and can handle upcoming standards and technologies without needing another upgrade soon.

4. **Reduced Latency:** Higher bandwidth typically translates to lower latency, which is critical in AV applications where real-time transmission and synchronization between audio and video are essential.

5. **Scalability:** 10Gb Ethernet networks are inherently more scalable than 1Gb networks. They can support larger systems with more endpoints without sacrificing performance.

6. **Cost Efficiency:** While initially more expensive to deploy, 10Gb Ethernet solutions can be more cost-effective in the long run due to their ability to handle higher data rates and reduce the need for additional infrastructure upgrades in the near future.

7. **Compatibility and Standardization:** 10Gb Ethernet is a well-established standard, ensuring compatibility with a wide range of devices and equipment from different manufacturers. This can simplify integration and troubleshooting compared to proprietary solutions that may be more limited in interoperability.

In summary, the move to 10Gb Ethernet in AVoIP offers superior performance, scalability, and future-proofing compared to proprietary 1Gb solutions, making it a better option for demanding AV environments where high-quality, low-latency transmission is essential.



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Media Partner: **AV TODAY**



The **COLL-AV-RATE Tech Showcase** in Pune on June 21st, 2024, at Radisson Blu began with registration and insightful presentations from industry leaders at **Crestron, Jabra, Sennheiser, and NFS Technology**. Hosted by **COLCOM - Collaboration and Communication Technologies**, the event highlighted the expertise of our partners including **Microsoft** and with **AV TODAY** as the media partner.



Attendees enjoyed hands-on demos and lucky draw winners received exciting Jabra giveaways. The evening ended with delightful food, drinks, and memorable moments.

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DISCOVERING INDIA'S HERITAGE: THE EVOLUTION OF AUDIO GUIDES

Renowned for its timeless history, diverse culture, and magnificent architecture, India has always been a magnet for travellers worldwide. As technology advances, so does the way we experience and interact with this rich heritage. Audio guides in particular, have evolved significantly, becoming a powerful tool that bridges the gap between the past and the present, making history not just accessible but also engaging and immersive.

Traditionally, tourist guides have been the custodians of India's historical narratives. These guides offer personalised tours, share local insights, and bring a human touch to the exploration of cultural heritage. Iconic sites like the Qutub Minar, Taj Mahal, and Amber Fort still benefit from the presence of these guides, ensuring a rich, interactive experience for visitors. The knowledge and personal anecdotes shared by these guides offer a unique perspective that enhances the visitor's

understanding and appreciation of these historic sites. Their storytelling abilities, combined with a deep understanding of local culture and traditions, add a layer of depth to the historical facts, making each visit a unique and memorable experience.

The introduction of audio guides marked a significant shift in how visitors interact with historical sites. Initially, audio guides were simple transmitter and receiver systems that provided basic information. Over time, these systems evolved into sophisticated devices, often GPS-enabled, that could personalise content based on visitor preferences and movements. This technological leap has provided a new dimension to exploring historical sites, offering a more flexible and personalised experience. Audio guides can now offer detailed historical context, anecdotes, and cultural insights, enhancing the visitor's journey through India's rich heritage.

In 2011, I began a journey with a Delhi-based company, focusing on audio guides and "Son et Lumière" (sound and light shows). The creation of audio guide content is a meticulous process involving thorough research, creative writing, and technical production. The objective is to craft informative, immersive experiences that captivate visitors and enhance their understanding of the sites.

During my work for Amber Fort in Jaipur, the emphasis was on dramatizing the script, selecting voice-over artists for Indian and International languages, and integrating sound effects and background music. This approach aimed to create a vivid, emotional connection for visitors, transforming their tour into a captivating experience. The audio guide brings to life tales of the Rajput kings and queens, and describes the architecture and history of the fort. The blend of historical narration with dramatic re-enactments allows visitors to step back in time and experience the fort's vibrant history.

Similarly, at the Qutub Minar, the audio guide

Arunimaa Shanker Deb, Associate Creative Director at Magical Theatre, Delhi, has been working on Son-et-Lumière shows and Museums at prominent heritage sites across India. Essentially an artist who worked as a graphic designer and a 3D professional, Arunimaa excels in permanent audio-visual installations, post-production and museum solutions. The Magical Theatre team recently won the SIIA 2023 Award in the Projection Mapping Category for its show at the historic Rajwada Palace. She writes on her experiences creating content for audio guides.



blends historical facts with engaging stories to offer a compelling narrative. This approach ensures that both Indian and international tourists can enjoy and appreciate the rich history and architectural marvel of the monument. By including lesser-known anecdotes and intriguing historical details, the audio guide enriches the visitor's experience. For example, the story of the Iron Pillar, with its mysterious origins and rust-resistant properties, adds a fascinating layer to the visit.

At the Gandhi Research Museum in Jalgaon, Maharashtra, the challenge was to present Mahatma Gandhi's life and contributions in an engaging manner. The audio guide needed to reflect Gandhi's profound impact on India's history while making it accessible and interesting to a diverse audience. Through carefully crafted narratives, the guide highlights key events and philosophies of Gandhi, making his legacy come alive for visitors. The guide delves into lesser-known aspects of Gandhi's life, such as his experiments with truth and non-violence, providing a holistic view of his contributions.

For Jantar Mantar in Jaipur, the content focused on the site's astronomical and scientific significance. The aim was to make complex concepts accessible and interesting to a broader audience, enhancing their understanding of the scientific achievements of ancient India. The audio guide explains the intricate workings of the observatory's instruments, making it easier for visitors to appreciate the ingenuity of the site. Detailed explanations about instruments like the Samrat Yantra and the Jai Prakash Yantra help demystify their functions, allowing visitors to grasp the advanced astronomical knowledge of the era.

The creation of audio guide content is a meticulous process involving thorough research, creative writing, and technical production. The objective is to craft informative, immersive experiences that captivate visitors and enhance their understanding of the sites.

The Rail Museum in New Delhi presented another set of challenges, requiring the creation of engaging and interactive content for a vast number of exhibits. The audio guide had to cater to both children and seniors, offering different age groups to enjoy their tour. The guide brings the history of Indian Railways to life, detailing the evolution of trains and the stories behind the exhibits.

When the industry was flourishing at its peak, the COVID-19 pandemic brought unprecedented challenges to the tourism sector. Travel restrictions, lockdowns, and health concerns led to a sharp decline in visitor numbers at historical sites and museums. Shared audio guide devices pose a health risk, necessitating innovative solutions to continue providing engaging experiences.

The industry responded by shifting towards mobile apps and web-based guides, allowing visitors to download content on their smartphones, and ensuring a contactless experience. Augmented reality (AR) technology further enhanced these guides, offering immersive experiences without additional hardware. Virtual tours emerged as another solution, providing comprehensive experiences with audio narration, images, and videos that could be accessed from home. QR codes

became a popular method for delivering audio guide content, enabling visitors to access information through simple scans at points of interest. These innovations ensured that the rich historical narratives continued to be accessible, even during times of restricted physical access. The pandemic accelerated the adoption of digital solutions, paving the way for a more resilient and adaptable tourism industry.

As India embraces technological advancements, audio guides remain a crucial part of the visitor experience at historical sites, museums, and cultural landmarks. These guides have evolved from traditional formats to sophisticated, multimedia-rich tools that offer personalised, interactive experiences. Through these innovations, audio guides continue to unfold the narratives of India's rich history, making them accessible and captivating for modern visitors. They ensure that the stories of the past are not only preserved but also brought to life, enriching the journey through India's heritage for all who embark on it. The future promises further integration of cutting-edge technology, such as artificial intelligence and virtual reality, to make the exploration of India's heritage even more engaging and immersive. Imagine virtual reality experiences that allow visitors to walk through ancient cities as they once were, or AI-driven guides that can answer questions in real-time, providing a deeply interactive and personalised exploration of India's rich historical tapestry. There is much more to unfold, and the future holds exciting possibilities. I look forward to seeing how technology will continue to enrich and transform the way we experience India's rich history.



Hyderabad

Visitor Attraction

KACHEGUDA RAILWAY STATION'S FACADE LIGHTING: A FUSION OF AESTHETICS AND FUNCTIONALITY



Consultant: **Arudhra Business Consultech**
 Integrator : **Leksa Lighting Technologies Pvt Ltd**
 Category : **Facade Lighting Illumination**
 Client : **South Central Railway – Hyderabad Division**
 Contact : **leksalighting.com**

Kacheguda Railway Station in Hyderabad, India, is known for its functional importance and impressive architectural design. A standout feature is its facade lighting, enhancing the station's nighttime aesthetic appeal and visibility.

Recently, Leksa Lighting completed a project using 785 luminaires, strategically placed to highlight the station's intricate design and historical significance. This lighting not only beautifies the station but also instills a sense of pride in the local community.

The project used outdoor-rated, environmentally friendly luminaires powered by the latest LED and laser technology. RGBW linear wall grazers, wall washers, spotlights, and a high-wattage Gobo Projector were selected for

the creative design.

These lights are controlled by a Digital Multiplex network, enabling up to 16 million color combinations. Customized glowing structural elements, such as giraffes, elephants, and pandas, were added near the entrance to create a child-friendly atmosphere. The facade lighting enhances the station's ambiance, creating different moods and improving the overall passenger experience. Exclusive color themes are programmed for festivals.

Overall, the facade lighting at Kacheguda Railway Station blends aesthetics and functionality, elevating its visual appeal and enriching the urban landscape.

Haryana

Hospitality

ADVANCED AV AND ACOUSTICS ENHANCE GUEST EXPERIENCE AT COURTYARD

Courtyard by Marriott in Faridabad, Haryana, merges sophistication with functionality across its 158 rooms and comprehensive amenities. Advanced AV and Acoustics solutions enhance guest experiences through immersive entertainment and adaptable spaces for various events and needs.

The property's extensive layout posed challenges, causing signal degradation due to long cable lengths. To address this, dedicated AV racks for specific areas were installed, ensuring smoother functioning and less distortion. Large gathering areas now feature Samsung high-end displays for engaging content, while Barco projectors enhance presentations with captivating visuals.

JBL's Ceiling, Line Array, and Paging

Horn speakers deliver an impactful sound experience, supported by Crown amplifiers that regulate signals while preserving their original quality.

Extron switchers, utilizing 3U and 4K technology, offer efficiency, versatility, and high performance for the AV system.

Unified solutions have created state-of-the-art technology, providing automation benefits and ease for hotel staff. AV-over-IP enables remote monitoring and management of AV equipment. In event spaces like ballrooms, products adapt effortlessly to changes in space configuration, maximizing flexibility and usability. Dynamic displays in high-traffic areas captivate guests with engaging content and promote hotel amenities and services.



Consultant: **ASK Consultants**
 Integrator : **Havi Design System LLP**
 Category : **Hotels and Resorts**
 Client : **Courtyard by Marriott Aravali Resort, Faridabad**
 Contact : **askconsultantsindia.com**

Kerala

House of Worship

HARMONIZING HERITAGE: MODERN ACOUSTICS IN HISTORIC CHURCH RECONSTRUCTION



Consultant: **NA**
 Integrator : **ZACS AND PHILS**
 Category : **House of worship**
 Client : **Kumbanad Marthoma Valiya Pally, Kumbanad**
 Contact : **zacsnpahils.com**

Established in AD 1761, Kumbanad Marthoma Valiya Pally has undergone its fifth reconstruction to accommodate a larger worship community while preserving its rich history. The construction, which began 14 months ago, was completed within the same period, meeting the aspirations of many parishioners.

To enhance the audio system, the church committee consulted various experts, ultimately selecting Zacs and Phils, known for their expertise in house of worship installations. The new audio system was chosen to ensure clear speech and music intelligibility in the expansive venue. Designed by architect Jeff Antony, initial concerns about acoustical issues like high reverberations and echoes were resolved, as the structure exhibited no problems.

A simulation helped determine the required loudspeaker system for an immersive soundscape.

The new audio setup includes Turbosounds NuQ Series Subwoofers and Tannoy VLS loudspeakers powered by Lab.gruppen amplifiers. Control is managed through the Behringer X32 digital mixing console, with signal processing by Marani. World-class microphones from Audio-Technica were also incorporated.

The dedication of the Zacs and Phils team was praised by church authorities, including Mr. Bijo Varghese, Secretary; Mr. George Joseph, Convenor and Trustee; and Rev. Monsi K. Philip, Vicar. The project was also appreciated by Rev. John Mathai, the Former Director of the Department of Sacred Music and Communications (DSMC).

Bihar

Education

ELEVATING EDUCATION: CUTTING-EDGE AV TRANSFORMATIONS FOR ENHANCED LEARNING

Vallect has been selected as the AV integrator for IIM Bodh Gaya, enhancing the campus with tailored AV solutions across various facilities. The centerpiece is a 500-seater auditorium equipped with advanced audiovisual technology: projection systems, displays, a switching system, digital sound reinforcement, and stage lighting, ideal for events and presentations. Smart classrooms, accommodating 90 to 150 students, feature similar AV setups to foster interactive learning environments.

The project began with a thorough assessment to strategically position AV equipment based on student and faculty needs. Vallect's solutions not only address current requirements but also anticipate future campus growth, ensuring scalability.

Comprehensive training was provided to campus staff on operating the new AV systems, ensuring seamless functionality and support.

These installations have significantly transformed educational and administrative settings at IIM Bodh Gaya. The AV enhancements enhance clarity and engagement in lectures and presentations, while the auditorium now supports diverse events. Conference rooms equipped with integrated video conferencing facilitate seamless collaboration.

Overall, Vallect's intuitive AV solutions have streamlined operations and boosted user satisfaction campus-wide, marking a substantial improvement in multimedia capabilities at IIM Bodh Gaya.



Consultant: **NA**
 Integrator : **Vallect**
 Category : **Education**
 Client : **IIM Bodhgaya, Bihar**
 Contact : **vallect.com**

Kerala

Night Club

ELEVATING KANNUR'S NIGHTLIFE WITH VELOCITY'S AUDIO UPGRADE



Consultant: **NA**
 Integrator : **ZACS AND PHILS**
 Category : **Lounge Bar and Night club**
 Client : **Velocity - Kannur**
 Contact : **zacsnpahils.com**

Velocity Lounge Bar, a cornerstone of Kannur's nightlife, has been the epitome of sophistication, merging upscale lounging with exquisite fine dining. Known for its vibrant atmosphere and luxurious setting, Velocity has recently enhanced its auditory experience by incorporating state-of-the-art audio systems. This upgrade has cemented its position as the premier nightlife destination in Kannur.

Kannur, a city with a growing appetite for nightlife, demanded an establishment that could offer an unparalleled sensory experience. Velocity recognized this need and embarked on a mission to elevate its audio-visual experience. By integrating Turbosound NuQ Series Speakers and Pioneer DJ Systems. Expert audio engineers assessed the venue's acoustics to determine the optimal placement of

each component, ensuring balanced and high-quality sound throughout the lounge.

The new audio system has revolutionized the sound quality at Velocity, offering patrons a captivating auditory experience. The enhanced sound clarity and depth have significantly improved the overall ambiance, making Velocity the first venue in Kannur to offer such a high-caliber audio experience.

Velocity's audio upgrade underscores its commitment to providing an exceptional nightlife experience. By integrating cutting-edge audio technology, Velocity has set a new standard for nightlife in Kannur. This strategic enhancement not only attracts a more discerning clientele but also solidifies Velocity's position as the leading nightlife destination in the city.

Himachal Pradesh

Government

AUDIT OFFICE IN SHIMLA ACHIEVES AUDIO EXCELLENCE

Omsan Smart Technologies LLP, in collaboration with Pink Noise Professionals Pvt. Ltd., recently completed a sophisticated audio installation project at the Audit Office in Shimla, setting a new standard in conference room technology. This endeavour aimed to optimize communication environments with cutting-edge audio solutions tailored to meet the specific needs of the office.

The project involved outfitting two conference rooms with state-of-the-art equipment. Conference Room 1 was equipped with 22 Clock audio CRM102F microphones and Erthpot 1616 DSP units, while Conference Room 2 featured 16 microphones of the same model and Erthpot Keyer 1616 DSP units. The installation process began with meticulous site surveys and planning,

ensuring that the audio setup would effectively complement the rooms' acoustic characteristics.

Following the survey, the installation team seamlessly integrated the DSP units and meticulously positioned the microphones for uniform coverage. They then fine-tuned the DSP settings and calibrated the microphones to optimize sensitivity and clarity. Through rigorous testing and adjustments, the team ensured that the systems met stringent performance standards without audio feedback issues.

This collaboration exemplifies their commitment to enhancing operational efficiency and user satisfaction through advanced audiovisual technologies.



Consultant: **NA**
 Integrator : **Pink Noise Professional Pvt. Ltd**
 Category : **Corporate**
 Client : **Audit Office, Shimla**
 Contact : **pinknoise.com**



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