

# palmexpo 2023

## Achieves Recognition from Global Brands. Strength of Indian Market Demands Strong Presence

*PALM Expo 2023 returned to the BEC, Mumbai, for its 21st edition, drawing exhibitors and attendees from around the globe, simultaneously placing the Indian pro audio and lighting industry on the map. PALM Magazine reports from the trade show floor of the three-day expo.*

The strong surge of visitors at the Pro Audio Hall 1 and Hall 3 Lighting Hall crossing 27,000+ footfalls was a fascinating display of professional buyers inundating the aisles creating an undeniable vindication of the Indian market estimated at over a billion dollars for pro audio equipment. It was this factor for the marquee booths expanding and display of the absolutely latest equipment showcased anywhere in the world of high-end audio and lighting including, Big Stage Sound, 3D Holographic, AR, VR, Intelligent Lighting, Projection Blend Display, 3D Projection Mapping, Lighting Effects, etc.

"This demand is so substantial I dare say there is a paradigm shift in the global pie chart for pro audio and pro sound consumption, major manufacturers need to realize this shift and redesign sourcing and supply for Indian consumption. Indian engineering talent is the second most important traction in making India the hub for global supply and product development. PALM is the perfect platform to provide distribution and talent" avers **Anil Chopra**, founding director of PALM Expo.

### ATTENDEES AT PALM

PALM + AV-ICN Expo witnessed a total footfall of 27,786 and 21,659 unique visitors across the expo halls from 25th May – 27th May 2023. The expo helped

*"PALM Expo is a remarkably well organised event. We also presented a seminar at the 2023 conference, and we also had a booth on the exhibition floor. At every turn PALM staff were professional, friendly, and prompt. This was particularly helpful to us as we organised everything from the UK and only arrived in India the day before it opened. They made a complex undertaking smooth and easy for us."*

**DONAL WHELAN**  
MD AND MASTERING ENGINEER,  
HAFOD MASTERING

the visitors interact and explore more about the innovations and technologies introduced in the pro audio, lighting, and sound industry. The rough estimate for visitor analysis at the PALM Expo 2023 reflects that the show floor was populated with approximately 59% Actual Users and 41% Trade Visitors.

### EXHIBITORS AT PALM

Around 145 exhibitors took to the PALM platform to deliver lighting display, install sound, recording sound, rental sound, stage sound, surround sound,

# INDIA'S GREATEST SHOW ON PRO AUDIO, PRO AV & LIGHTING SOLUTIONS



DEMOBOOTH

LARGEST DISPLAY OF  
ENTERTAINMENT  
LIGHTING



soundtrack, post-production, or music production products and latest technologies in Hall 1 and 3 of the expo. PALM provided a platform for the top national and international brands like **Ahuja Radios, Alphatec Audio Video, Ansata, Beta Three Audio, Generation AV, HARMAN International, Hemona Acoustics, Integrated Entertainment Solutions, Italian Sound Design, Decibel Pro, Modern Stage Service Pvt. Ltd., Osram Lighting, Pink Noise Professionals, Sennheiser, Sonotone Audio, Stagemix, Sun Infonet, Vardhaman Megatech, Narain Audio & Lighting, LBT Electronics, Calibre Sound Systems, ATIPRO**, and many more to exhibit cutting-edge technologies, introduce new products, and bring in advanced solutions from the pro audio, sound, and lighting industry in India.

"We are thrilled to be at the forefront of PALM Expo 2023, seizing this unique opportunity to present our latest pro audio equipment and technologies to industry professionals. Through workshops and immersive experiences, we aim to support the growth of our valued professionals. The newly launched A6, with its advanced acoustic innovations and cutting-edge technology from the VTX line, is set to revolutionize the pro audio industry by delivering an extraordinary big-system performance," stated **Amar Subash**, Vice President and General Manager, **HARMAN Professional Solutions APAC**.

Commenting on the annual event, **Vipin Pungalia**, Director, Professional Segment, **Sennheiser Electronics India Pvt. Ltd.**, stated, "PALM Expo stands out as a key industry event, attracting industry professionals who gather to

witness the cutting-edge technologies that are shaping the present and future of audio."

**Robin Ghose**, Business Development Manager (Professional and Consumer) at **Audio-Technica** also shared his experiences as one of the exhibitors at the PALM Expo 2023. He said, "We are thrilled to participate in the PALM Expo 2023 and present our latest audio solutions to the industry professionals and enthusiasts. At Audio-Technica, we strive to deliver products that combine exceptional sound quality, reliability, and user-friendly features. PALM Expo provides an excellent platform to connect with our customers, showcase our offerings, and reinforce our commitment to superior audio performance."

## PALM CONFERENCE & SEMINAR 2023

The **PALM Conference 2023** was a huge success as delegates thronged the conference room to listen to industry expert providing insights on studio sound, live sound engineering and design, audiovisual integration, and much more. The conference also delivered interesting insights on relevant and topical subjects.

The PALM Conference started with Anil Chopra's keynote address carrying the most apt message for the pro audio industry. He said, "India possesses a very dynamic cultural landscape, and we witness that in terms of the tremendous amount of content that is generated in the country. PALM Expo represents that energy,



**“PALM Expo stands out as a key industry event, attracting industry professionals who gather to witness the cutting-edge technologies that are shaping the present and future of audio.”**

**VIPIN PUNGALIA**  
**DIRECTOR, PROFESSIONAL SEGMENT,**  
**SENNHEISER ELECTRONICS INDIA PVT. LTD.**

that growth, and the tremendous power of the India's pro audio industry. My keynote this year is that this country and all the players in the pro audio industry must seriously look at manufacturing. This is the beginning. The Indian market is so large and so demanding and so knowledgeable that I would say on a very serious keynote that investment into manufacturing is a must for pro audio," says Chopra. "And that is as far as the story of PALM goes and it will continue from strength to strength each year, we will have larger exhibits, we will have more participants with almost every product and technology in pro audio. I think the objective 21 years ago, which was born out of the earnest desire to have a dedicated pro audio platform in India by the professionals in the country by PALM Expo, has been delivered with dedication, perseverance, and single-mindedness of purpose. It has also encouraged the participation all these years to the exhibition. My keynote is for the industry, to get serious about product development, design, and manufacturing, that we should look into the coming years."

The proceedings at the three-day PALM Conference, provoked the industry experts to re-analyze the Indian pro-audio, sound, and lighting market. It reflected on the major shift required to establish the profound industry in India and lead the market globally. The major discussions covered key topics like *Artificial Intelligence and Machine Learning*, *Pushing Back Analogue Boundaries*, *Dynamics of FOH*, *Deploying Immersive Audio in Live Sound*, *A New Frontier In Recording - The Firdaus Studio By A.R. Rahman*, *Future of live sound In Big Ticket Events*, *Dolby Atmos experience*, and much more.

## **Unspooling Memories of Sounds & Music with Avinash Oak**

The PALM AES Session on **Unspooling Memories of Sounds & Music with Avinash Oak** started with the discussion on exploring the world of sound recording with **Avinash Oak's** recently launched book, *'Unspooling Memories: The Sound and Music of My Life.'* Other panellists included **Vinayak B. Deo**, Director, AVB Consultants and **Anil Chopra**, Founding Director, PALM and AV-ICN Expo. Summarizing the content of the book, Anil Chopra, said, "Avinash Oak has unspooled the memories of the whole industry. The book is not at all about Avinash. He has narrated the whole history of the Indian Recording Industry by virtue of this book. For any

researcher who is trying to find about India's recording industry and the history of the entire era in sound recording, the book delivers an in-depth knowledge about everything." Adding to the talks, Vinayak B. Deo stated, "Avinash has gone where no other sound recording artist has gone before." The session discussed many topics like how Avinash Oak managed to maintain the precise pitch, Avinash's contemporary friends from FTI, is it possible to separate the tone of music and instruments, are we using excessive gadgets that may destroy the sweetness or correct feelings of the sound, and more.

## **Pushing Back the Analogue Boundaries**

The session by **Gethin John**, Chief Engineer and **Donal Whelan**, MD and Mastering Engineer at **Hafod Mastering**, on 'Pushing Back the Analogue Boundaries' drove the audience towards enthralling discussions about analogue setups, what is mastering, how it helps music producers and engineers, difference between self-mastering and pro-mastering, importance of mastering room setup, upgrading the mains supply, upgrading the mains wiring, upgrading the mains earthing, installing a relay patch matrix, upgrading the audio wiring, unbalancing the mastering chain, new buffer amps in the mastering and monitoring chains, and more. Questions like "what is it that you are listening for as a mastering engineer to add the sparkle that makes it better," were also put up at the end of the conference session.

## **Artificial Intelligence and Machine Learning For Audio Engineers**

**Sreejesh Nair**, Avid Dolby Certified Audio Application Specialist, took to the stage to discuss the fundamentals of AI and Machine learning. The session attracted a full house with Sreejesh Nair's thoughtful insights in Artificial Intelligence and Machine Learning. His experiences and expertise in audio drew the audience to the session in large numbers, eager to receive in-depth knowledge on audio analysis, equalization, mixing, speech-to-text conversion, intelligent spatial mixing, new speech synthesis, sentiment analysis, and more. The sessions also initiated the conversation with the young audio engineers seated in the audience discussing aspects like – should audio engineers focus on coding for creating audio, and more such queries.

## **A New Frontier in Recording - The Firdaus Studio by A.R. Rahman**

**Aditya Modi**, Designer and Head, **Firdaus Studio by A.R. Rahman**, elaborated on why and how a large format studio is designed in the modern times through this session. He also emphasized on how the technology is future proof and makes the studio more decentralized, wherein there is a blurry line between various spaces, and each space can be utilized the way the client demands. The session shared insights on how Firdaus Studio located in Expo City Dubai is a home for the only all-female Firdaus Orchestra. The session ended with an interactive Q&A where the audience pitched some thought-provoking questions.

## **Panel Discussion on The Dynamics Of FOH**

The FOH-focused session discussed critical factors to consider for optimum FOH



**L to R: Vinayak B. Deo, Director, AVB Consultants, Anil Chopra, Founding Director, PALM Expo, Avinash Oak, Esteemed Sound Engineer at the PALM AES Session**





**Donal Whelan, Mastering Engineer and Gethin John, Chief Engineer from Hafod Mastering at the session - Pushing Back The Analogue Boundaries**

delivery. The moderator of the session **Jayakrishnan Nalinkumar**, Founder, **TAG Institute** began the session with the most intriguing questions informing the audience about the FOH mix positions, better stage, FOH communication, and more. The panellists for the session **Vijay Benegal**, Live Sound Engineer and Co-founder, **Odble Consultants**, **Mujeeb Dadarkar**, Audio Consultant and Co-founder, **Odble Consultants**, **Fali Damania**, Live sound Engineer & Market Development Manager at **Shure Incorporated**, **Dwayne Das**, Live Sound Engineer and Application Engineer, **Alphatec Audio Video Pvt Ltd**, and **James Baker**, FOH Engineer, FOH Technician and Senior International Sales Manager, **DiGiCo** added to the wonderful session with their technical expertise in FOH industry.

## Insights into the World of a Lighting Designer for Careers into Light Design

**Lloyd Albuquerque**, Lighting Designer and Director, discussed what a lighting designer brings to the table. The session informed the audience about how people should see lighting in terms of symmetry, abstract, shades, colour, and hue. Facilitated by the **International Institute of Event Design**, the session educated lighting enthusiasts and professionals on the basics of lighting, law and physics of light, lighting plot, depth of lighting, texture, and more. It also emphasised on the sound, video, sets, and production part of an event as covered in the courses by IIED for light designing engineers. Lloyd Albuquerque believes in "getting the jargons out of the way in light design". He says, "Know the environment before you get there. If you don't know what you are dealing with, it won't work." For the aspiring lighting designers and even experienced professionals, the session worked upon the ideas of staging, props, budgets in light design, and how being pre-planned caters to a successful event. "Every lighting scene should be perfect and only young minds can change it because they have the ability to think out-of-the-box and create a better version of it. And if that happens in the next 5 or 10 years and the industry get a spurt of that, I think we have ignited something, and I have started something that I can be proud of," said Lloyd Albuquerque closing the session.

## Deploying Immersive Audio in Live Sound

**Rahul Samuel**, Live Sound Engineer and Application Engineer for the Middle East and India, **L-Acoustics** drove the audience's interest towards the new buzzword – 'immersive audio' in live sound at the PALM Expo. The session began with the illustrations of how the stage concerts looked in the 1960s. Samuel diversified the topic with discussions on state-of-the-art stereo, consoles with 48 channels from the 1960s, amplifiers, loudspeakers that actually catered to more than 10,000 people, and high-class filters. Not only that, but he also brought light to the transformation in performance of audio with features like uniform coverage, mixing in stereo, masking and unmasking, identifying pathlength differences, impulse degradation, localisation, intelligibility, and distance. The interactive session explored essential aspects like design considerations for the room engine to improve live sound experiences. The session taught young engineers about the steps to improve immersive sound with processor, speaker, control through object-based mixing, and pre-production through controller software with virtual processor. The session concluded with the presentation of a definite example from the SoundVision software, L-ISA model, to import the speaker layout and a quick overview of what immersive audio can bring to your events. There was one question put up by one of the delegates – if you put a tracker on a guy and he is between the centre and the speaker in the left, are you going to have cone filtering between those two, to which Rahul Samuel answered, "Yes, when you put two loudspeakers, you will require cone-filtering, but when it comes to designing speaker systems, there are a certain set of rules to be followed." This and many other questions were answered by Samuel during the conference in-depth.

## Panel Discussion on the future of Live Sound in Big Ticket Events

The panellists including **Dr. Rajesh Khade**, Sound Design and Optimization Engineer, **Manish Mavani**, Director, **Sound and Light Professionals (SNL Pro)**, **Warren Dsouza**, Founder & Managing Director, **Sound.com**, **George Georgallis**, Director Performance Audio, **HARMAN International**, and **Tony Sawyer**, Applications Manager at **Generation AV**, took to the stage to discuss the growth trajectory for the big stage and sound systems, the rental industry, and more. The session started with the moderator, Dr. Rajesh Khade's initiating the discussion about what constitutes big-ticket events, the right box-size for these events, the difference between the boxes and the reasoning for choice of big-size and small-size boxes and factors that rental owners should consider while choosing the box.

George Georgallis shared his opinions on what drives the international market, with respect to brands. He says, "I think for the most part, the Tier-I market is brand based and the companies are making large investments they usually want to go with, they have to build a reputation for being in the market for a long time. So, probably the Tier-I market tends to go with the bigger and more reputable brands."

Tony Sawyer shared, "I think what a rental company needs to look at is, if it's targeting that 5% or 2% market driven at the international market or the domestic rental market. Domestic rental market tends to be lenient towards the brands

*(Continued on page 32)*

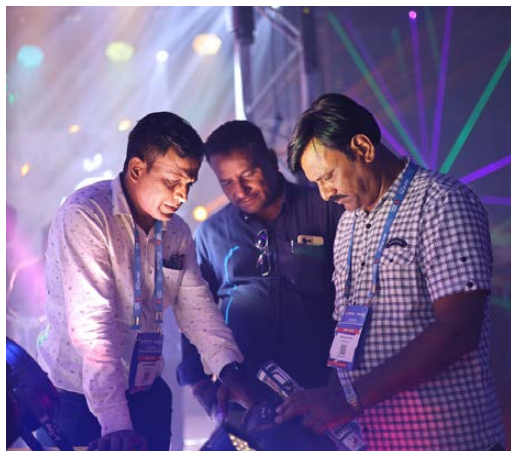


**Aditya Modi, Designer And Head Firdaus Studio By A.R. Rahman, elaborating on Studio Recording**





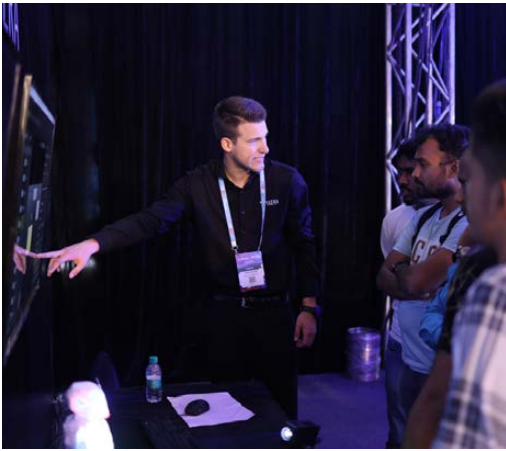
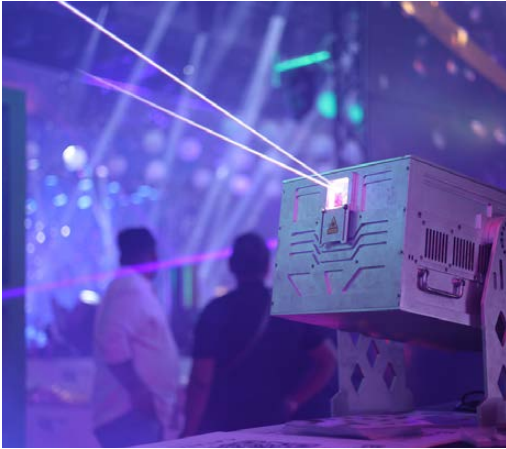
















L to R: Jayakrishnan Nalinkumar - Founder, TAG Institute; Vijay Benegal - Live Sound Engineer and Co-founder, Odble Consultants; Mujeeb Dadarkar - Audio Consultant and Co-founder, Odble Consultants; James Baker - FOH Engineer, FOH Technician and Senior International Sales Manager, DiGiCo; Dwayne Das - Live Sound Engineer and Application Engineer, Alphatec Audio Video Pvt Ltd; Fali Damania - Live sound Engineer & Market Development Manager at Shure at the PALM Conference

**“PALM expo, has always excelled, be it the exhibit floor or the Conference! I’ve been attending the expo every year, mostly as an exhibitor, and just when I thought it couldn’t get any better, it always did. Keeping the community together & well informed and educating the next generation - are key success points of the PALM Conference that keeps motivating speakers like me to come back each year.”**

**ADITYA MODI**  
**DESIGNER AND HEAD FIRDAUS STUDIO**  
**BY A.R. RAHMAN**

(Continued from page 26)

because it’s more feasible.”

“When you are calculating your ROI, just don’t look at the rental versus the system. You also have to look at adding into your PNL. There should be a pre-PNL and post-PNL for your project,” says Manish Mavani while commenting on the essential factors to consider for big-ticket events.

Sharing his experience and expertise, Warren Dsouza, stated, “The cost of time is very important and when you add all these factors up, you realise how small your margin ultimately becomes and all we are working for is the bottom-line.”

The session covered many more questions related to equipment, sourcing, and ROI from big-ticket events. Panellists shared inputs on how to push a new brand in the market, should you invest in powered or passive speakers, how long can you continue using an old equipment, and more.

## Exploiting the Sound Engineering Talent of the Visually Impaired

The session, which included panellists **Jijesh**, Managing Director of **Mookambika Foundation for Adaptive Services**, **Ed Gray**, Director of Accessibility at **Avid**, **Byron Harden**, Founder, **I See Music (ISM)**, **Ibrahim Dammie Onafeko**, Multimedia Journalist, and **Sushma Gaikwad**, Co-Founder, **Ice Global**, discussed the experiences of the visually impaired who have heightened sense of sound enabling them to deliver optimally to studios and sound production. Sushma Gaikwad commended the PALM Conference platform for having put together this session. “Let’s begin to showcase the work and achievements of the sight impaired. It is time for us to present the sight impaired as the professional role models and to take leadership

roles in the industry. It’s definitely time to create accessibility to the entire talent that is available on this platform, and it’s time to create a network that bridges phenomenal talent and the industry that provides employment opportunity and work on prestigious projects. I am so happy that PALM Expo has taken on the entire aspect and the effort to create this hub for collaboration. So, kudos to the entire team at PALM Expo!” The session discussed ideas for starting a program in schools for the visually impaired students in India, as India currently doesn’t have a standardised education system for the visually impaired students.” The session ended with a very interesting video presented by Jijesh about a visually impaired musician who uses a software ‘**Logic Pro X**’ to express himself and ease his routine tasks like cooking, etc.

## Immersing your Audience with the Dolby Atmos Experience

**Bhaskar Pal**, Content Lead, India, ME, and Africa at **Dolby India** added to the pool of wonderful sessions at the PALM Conference with informational insights on Dolby Atmos and immersive content creation. The session focused on the opportunities that exist with Dolby Atmos as a format for creating immersive content. Bhaskar Pal while discussing the advancement of Dolby Atmos talked about Dolby Atmos in cinemas, home entertainment, broadcast, gaming, music, podcasting, and Dolby Atmos live. “IPL broadcasts in Dolby Atmos since its inception. The whole idea is to bring the stadium experience to home,” stated Bhaskar Pal. “The reaction time improves significantly with Dolby Atmos. As creators, one can have more creative freedom and retain audience’s attention with lifelike features enhancing storytelling and engagement.” The session also discussed the solutions offered by Dolby Atmos like binaural audio, ecosystem momentum, and more through advanced Dolby Atmos tools.

## Fireside Chat – 90 mins in and 90 mins out

**Sachit Subramanian**, Co-Founder and CEO at **Circle Pro Audio**, **Sancheth Suvarna**, Senior Engineer-NJSM, Touring Engineer, Co-Founder & Product Head at



L to R: Manish Mavani, Director - SNL Pro; Warren Dsouza - Founder & Managing Director, Sound.com; George Georgallis - Director Performance Audio HARMAN International, and Tony Sawyer, Applications Manager at Generation AV





**PALM Sound & Light Awards felicitates BookMyShow Live for Outstanding Music Festival Event Promoter of the Year. Kunal Khambhati, Head - Live Events & IP, BookMyShow receives the trophy**

Circle Pro Audio, **Vishrut V. Joshi**, Head Operations at **MEGA SOUND INDIA**, and **Luca Opizzi**, Technical Sales Executive at **Link Italy**, discussed how to achieve a tech setup within 90 mins and how it could be accomplished efficiently. "Once everything has reached the venue, rigging of speakers is the easiest part and can be achieved in less than 30 minutes," added Sachit Subramanian during the discussion on how to setup a good show in 90-min. The session discussed easy solutions for coiling cables, how to optimise all the processes from warehouse to the stage, etc. Furthermore, the session also discussed about how to divide the tasks amongst the crew members and what is the best way to wind up the optical cable and store it, and more.

## PALM SOUND AND LIGHT AWARDS 2023

The **PALM Sound & Light Awards** recognizes and celebrates outstanding excellence in the fields of pro sound and lighting. The Awards are a nod to the superlative brilliance of the brands, companies, and professionals from the pro sound and light industries, be it trailblazing sound and light rental companies, groundbreaking brands, eminent live event organizers or ingenious professional and sound engineers all of whom have played a part in elevating the world of sound and light in India to a global level, setting the gold standard in sound, lighting, and AV innovation, distribution, and rental.

This year, in its 11th edition, PALM Sound and Light Awards recognized excellence and professionalism across a total of 20 categories including the coveted "AV Architect of the Year" which went to **Kelvin Ashby King**, Principal Consultant, **Clarity Consulting**.

The awards were presented at PALM Expo Exhibitor's Networking and Dinner, which took place at Bombay Exhibition Centre's Grande C banquet hall.

Full report on *pg. 54*.

## INDIAN RECORDING ARTS ACADEMY (IRAA) AWARDS

The **IRAA** continually strives to bring into the limelight excellence in sound engi-



**IRRA Awards felicitates sound engineers and music producers at the PALM Expo 2023**

**"It was so nice of PALM to get me involved in the expo as a conference panellist and as a member of the Jury for IRRA Awards. Though the job of assessing all those hundreds of soundtracks was very tiring and exhaustive, the final culmination in the awards function was worth every bit of it. The Awards function was massive and almost whole music and sound industry was present with all the enthusiasm."**

**AVINASH OAK**  
**ESTEEMED SOUND ENGINEER**

neering and music production in India that define independent and popular music culture. In its 16th edition, with more than 80 award categories across ten main segments, the IRRA Awards acknowledged and celebrated technical genius and mastery in the field of sound recording, mixing, mastering, music production and postproduction. Year after year, the awards elevate the benchmark for brilliance, redefining time and again, the parameters of excellence in sound engineering and sound design for independent and pop music, as well as for films and OTT, that span regions, cultures, and languages across the country.

PALM expo announced the IRRA 2022 Awards through a virtual awards ceremony in April this year (*readers can access the video on the PALM YouTube Channel*) and all the winners were felicitated at a physical event on the sideline of the PALM expo.

The IRRA (Indian Recording Arts Academy) Awards 2022 felicitation ceremony took place on 25th May at Supporting Partner **HARMAN's Live Arena** at the expo. From 6:00 PM onwards, winners and their families gathered in strength to receive their awards. Also present were esteemed members of the Jury, both past and current.

"It was so nice of PALM to get me involved in the expo as a conference panellist and as a member of the Jury for IRRA Awards. Though the job of assessing all those hundreds of soundtracks was very tiring and exhaustive, the culmination in the awards function was worth every bit of it. The Felicitation ceremony was massive and almost the whole music and sound industry was present with all the enthusiasm," remarked **Avinash Oak**, Esteemed Sound Engineer.

## A BREATHTAKING WALK TOWARDS PALM LIGHTING DESIGN SHOWCASE

The 5th consecutive year of **PALM Lighting Design Showcase** at the PALM Expo 2023 in India, lured the visitors with the most intriguing lighting designs by **Ulhas Sahasrabuddhe** and his team at **SSL Media Technology & Solutions Pvt. Ltd.** once again. The unique designs by the creative and talented light designers reflected creative excellence for live events and entertainment industry. Moreover, the unique showcase captured audience's interests with an ever-evolving display of innovative visual imagery, creative stage lighting design, and reflections of the lighting console technology that is breaking new grounds in the events industry. This year at the PALM Lighting design showcase, **SSL Media** created a Pixel - Wheel of Fortune, which was controlled through a **Madrix** software and could be triggered by a lighting console. In addition to this the showcase had moving heads, moving washes & pixel dots.

## ENTERING PALM DEMO QUBE: DEMONSTRATING STAGE AND SOUND SOLUTIONS

The **PALM Demo Qube**, a square, sound-proofed space for high-decibel sound reinforcement systems is intended for demonstrating innovative stage and sound solutions. The Qube enables visitors to find cutting-edge sound systems from around the globe and attracts major sound systems rental companies to source their next big investment in new technology.

Mumbai based distribution company **Alphatec Audio**, which distributes some of the world's best audio and video equipment across India, availed of the Demo





**CODA Audio and Pequod, demo a range of products at the Demo Qube**

Qube facility, to introduce an exciting range of high-decibel sound reinforcement systems from **CODA Audio** and **Pequod**, attracting many visitors to the Qube.

Italian brand Pequod Acoustics which makes high quality audio equipment for professional users and audiophiles, has a range of speakers to meet any need, worldwide distribution, and many custom installations in nightclubs, discos, and other venues all over the world. At the Demo Qube, Alphatec Audio Video showcased the following products from Pequod:

**Polyphemus 14.1 - Very High Performance Three-Way Horn-Loaded System:** Polyphemus is a high performance, passive full-horn, three-way system. Polyphemus is designed to seamlessly integrate the dedicated transducers with composite horns for elevated sensitivity, dynamics, definition and durability. By providing wide angle coverage of a highly controlled sound field, it has the ability to reach sound levels at the limits of human tolerance with no perceptible distortion.

**Ovoid 5.1 - 18" Subwoofers:** The Ovoid 5.1 sub is a long excursion bass reflex subwoofer in ovoid axisymmetric closed structure, characterized by extreme sensitivity, dynamics, and emission power, made with an incredibly rigid and light structure in durable composite materials. The subwoofer uses a single hi-quality transducer of 18" (460mm). The structure is rigid and very light (considering the overall weight and the dB/Kg ratio).

**Kona Supra:** Composed of two main parts, starting with the Ovoid 5.1 long excursion 18" bass reflex subwoofer, and adding a new headboard made from a high speed and high sensibility 12" Cone Woofer connected to two compression drivers, one dedicated to the medium range frequency that gives definition and truthfulness to vocals, and the other covering the high range frequency with extremely clear and defined sound. The shape, with the emission centers close to each other and designed like a passive crossover, makes the sound front compact and extremely focused, with a realistic tridimensional reconstruction of the sound.

Germany-based CODA Audio, a leading designer and manufacturer of high quality pro-audio loudspeaker systems, announced its entry into the Indian market at the PALM Expo 2023. To further strengthen its business and enhance product awareness in India, the brand signed a strategic distribution partnership agreement with Alphatec.

CODA Audio has a unique patented driver technology designs which provide outstanding dynamic results as well as improved precision and reliability over



**Visitors experience live demonstrations of advanced sound and lighting systems at the PALM Expo**



**SSL Media and Technology Solutions facilitate the most intriguing lighting designs at PALM Lighting Design Showcase**

conventional components. It offers a wide product range of high quality solutions to satisfy the most discerning and complex professional sound reinforcement applications, ranging from portable to installation to touring.

Alphatec showcased 12 units x **ViRAY** and 4 units x **SCV-F subwoofer** from CODA Audio. ViRAY has a unique 8" coaxial mid/high planar wave driver and dual 8" neodymium ultra low distortion cone drivers. The SCV-F is a sensor controlled subwoofer incorporating an 18" woofer in a compact, vented enclosure. The complete system was powered by **LINUS T-RACK** which has 3x **LINUS14 amplifier** in a 10U heavy-duty rack.

## **GATEWAY TO IMMERSION WITH 3D IMMERSIVE PROJECTION MAPPING**

Designed and delivered by **MSSPL** in collaboration with **Christie**, with content by **Pixadoo Visuals** and Experience Engineer **Vijay Sabhlok**, the **3D Immersive Projection Mapping** feature at the PALM Expo 2023 was a head-turner. The 3D Immersive Projection Mapping set itself apart from traditional video mapping by making use of all surface types in 360° with immersive sound and 360° projection to transport viewers through an enthralling experience.

With the help of immersive technology, MSSPL and Pixadoo Visuals offered attendees a special experience that gives the impression that the real world and virtual reality are coexisting. This was achieved using sound and video technologies, and in this case, projection mapping. Immersive projection is becoming more and more awe inspiring, and it's easy to see why. "It has the unmatched capacity to transform any area by immersing the audience in amazingly realistic sound and vision while also transferring them to a whole different environment and location."

## **LIVE ARENA, LIVE DEMONSTRATIONS OF SOUND AND LIGHTING DESIGNS**

**HARMAN PALM Live Arena**, in its 12th consecutive year, once again facilitated live demonstrations of advanced sound and lighting systems through musical performances by popular and budding artistes and bands across the three-days PALM Expo.

At the **HARMAN Live Arena**, **HARMAN Professional Solutions** launched the **A6**, a subcompact dual 6.5-inch passive line array element, in India. The A6 is designed to be used as a standalone system or as an addition to larger VTX systems. The product has a low-frequency extension down to 67 Hz and a maximum SPL of 134 dB and features two custom 6.5-inch woofers along with a 3-inch annular-diaphragm compression driver, which enables it to incorporate the latest acoustic innovations from JBL's VTX line, including the patented Radiation Boundary Integrator (RBI) and Differential Drive dual-voice coil, dual-magnet woofer.

## **WHAT'S NEXT!**

The PALM Expo successfully accomplished its vision and mission this year, which was 'Delivering Business', enabling exhibitors and attendees to connect in a hassle-free environment, and ushering business growth for a multitude of product categories. With innovation at the centre of the pro audio and lighting nexus in India, PALM Expo shone the light on brands, both local and international, that are bringing a mix of reliable technology and experiential innovation to the table.

PALM Expo is set to return from **30th May, 2024 – 1st June, 2024** at the BEC, Mumbai, India.