AN EXCLUSIVE MAGAZINE FOR THE SMART HOME INDUSTRY.

SMARTHOME WORLD **VOL 4 · NO 06** OCTOBER 2024



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FEATURE STORY

Smart Appliances' growing demand in Indian homes and the latest product line.



CASE STUDY

Unispace Designs a Cutting-Edge Smart Office for HP Corporate in Gurgaon.

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Mahindra Lifespaces, Discusses Successful Implementations and the Future of Smart Living.



MANMEET AHUJA

Discusses the Benefits of Integrating Cutting-Edge Technology in Projects.



KHUSHALI PATEL

Country Manager, John Cullen Lighting shares her insights on the growing demand for smart lighting.

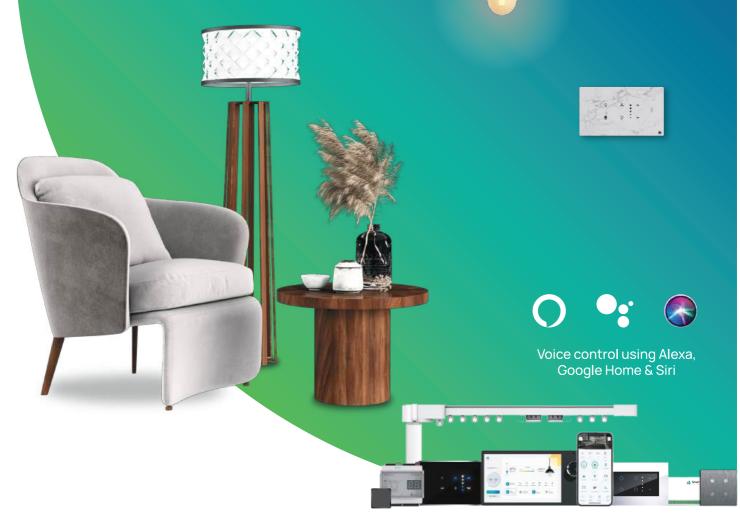


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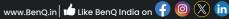
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The next ten years promise remarkable advancements in smart home technology. We have 13 prominent experts sharing their futuristic outlook on the industry as a whole.

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乙() Interviews

Jitesh Donga, Chief of Design, Mahindra Lifespaces, speaks on key insights into trends, successful implementations, and the future of smart living.

Manmeet Ahuja shares his experience in using cuttingedge technology and innovative design solutions in his projects.

Khushali Patel, Country Manager, John Cullen Lighting shares her insights on the growing demand for bespoke smart lighting and the challenges of integrating modern technology into heritage properties and more...

✓ Case Studies

Unispace has designed a smart office for HP Corporate in Gurgaon that integrates automation, smart lighting,

and IoT solutions, resulting in a flexible, futuristic workspace that enhances collaboration, productivity, and energy efficiency.

AND Studio, in partnership with OKAS Homes, has designed the Trivikramalaya Residence, by incorporating a fully integrated smart automation system that consolidates lighting, security, and HVAC into a single, user-friendly platform, enhancing both functionality and aesthetic appeal.

Product Preview

BenQ's TK710STi 4K Smart Short Throw Laser Projector provides extraordinary gaming and home entertainment experiences for compact living spaces.

Guest Article

Ar. Sahir Choudhary, writes on the transformative impact of Building Automation Technologies on modern architecture.

∑∠∟ News

Discover the latest innovations in audio solutions, home automation, and smart lighting to name a few. From advanced smart speakers and to multifunctional smart hubs and enhanced security systems, these new products are designed to elevate your home experience.



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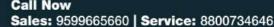




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SWATI BALGI

FROM THE EDITOR

The next decade promises to be a transformative era for smart home technology, with groundbreaking advancements on the horizon. In this issue, we compile insights from 13 leading experts who share their visionary perspectives on `The Future of Smart Homes: What to Expect in the Coming 10 Years.'

In the Feature Article section, we have everything from smart refrigerators and ovens to dishwashers and induction cooktops, the latest smart appliances that are sure to add a touch of sophistication to meal preparation and empower homeowners to manage tasks remotely.

We interviewed three experts from different segments, Jitesh Donga, Chief of Design, Mahindra Lifespaces, shared his views on current trends and successful implementations of BAS in their project. Manmeet Ahuja shares his excitement about adopting smart technology. At the same time Khushali Patel, Country Manager, John Cullen Lighting, discusses the rising demand for bespoke smart lighting and the challenges of integrating modern technology in heritage properties.

Our case studies highlight Unispace's reimagining of the workspace for HP Corporate in Gurgaon, where automation, smart lighting, and IoT solutions enhance collaboration and energy efficiency. Additionally, AND Studio, in partnership with OKAS Homes, designed a smart home for the client where the integration ofautomation system unifies lighting, security, and HVAC into an intuitive platform.

In our guest article, Ar. Sahir Choudhary writes about the transformative impact of Building Automation Technologies on modern architecture, shedding light on how these innovations are reshaping our design approaches. Finally, we have the BenQ TK710STi 4K Smart Short Throw Laser Projector, designed to deliver exceptional gaming and home entertainment experiences in compact spaces.

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Published by:

WORLD MEDIA & EXPO LLP.

505, D-Definity, Jay Prakash Road no.1, Goregaon(East), Mumbai-400063 | www.smarthomeworld.in

Smart Home World thanks the various companies that have submitted information. For any editorial submissions, please contact Ms. Swati Balgi, Editor, at swati@smarthomeworld.in. The information published in News, Ongoing Trends and Product Gallery is as per the details furnished by the respective manufacturer/distributor. It does not reflect the views of Smart Home World or of the management of WORLD MEDIA & EXPO LLP.

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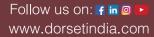


















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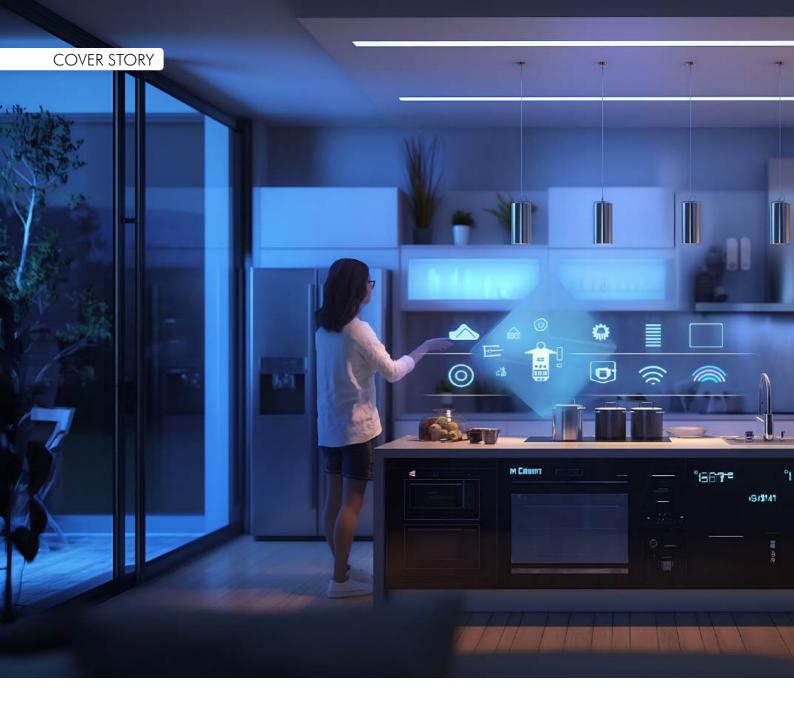
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The Future of Smart Homes: What to Expect in Coming 10 Years

The future of Smart Homes promises to redefine our views on connected, efficient, and secure living. With continuous advancements in personalized automation and enhanced security features, tomorrow's homes will deliver convenience beyond our imagination. Here's what industry experts have to share.

Home automation is no longer restricted to luxury homes, it is in demand even in the affordable segment. With homeowners' multi-tasking lifestyles and hectic schedules, they are looking for tech solutions that help them monitor and manage their homes more efficiently by integrating home automation to maintain and monitor their homes and

personalize certain areas of their homes so that it adds to their comfort levels.

Fortunately, the future of smart homes promises to address these pain points. In the next decade, advanced AI, Automation, and Smart Technologies will transform homes into personalised, eco-friendly havens automating

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chores, optimising energy usage, and integrating health and wellness systems, all while enhancing comfort and convenience. AI-Driven Personalisation

With growing advancement in Al which promises to offer personalized solutions, everything around you can be personalized. Whether buying a swanky new apartment or planning to upgrade your current home, advanced Al systems will soon transform home automation, going well beyond simple voice commands or preset routines.

These systems will be able to anticipate your needs, creating a home that adapts to your lifestyle. Imagine your house automatically adjusting the lighting and temperature based on your daily routine, or even preparing your

coffee as you wake up. Plus, AI will anticipate problems before they arise—so appliances and systems will automatically detect impending issues and schedule repairs, thus minimising downtime.

Sustainability and Energy Efficiency

In the future, smart homes will address various concerns linked with climate change and contribute significantly to improving sustainability and efficiency in energy consumption. These homes are envisioned to be constructed in a way that reduces harm to the environment and slashes costs for homeowners.

In the future, homes will automatically adjust and optimise energy usage in real time, eliminating unnecessary waste. Equipped with advanced energy management systems. Plus, water conservation will also advance with smart irrigation and leak detection systems, greywater recycling, and other methods that will ensure more efficient use of every drop of water.

Robotic Assistants and Home Automation

In the coming decade, robotic assistants and automated systems will transform our homes, changing how we handle everyday chores and tasks. Robotic arms in the kitchen will act as personal chefs, preparing meals tailored to individual dietary preferences and nutritional needs, restocking groceries when supplies run low, and even cleaning up afterward.

These robots will bring precision, consistency, and convenience, making cooking a stress-free experience. Toilets equipped with health-monitoring sensors will revolutionize personal care by tracking vital signs and detecting early signs of potential health issues.

Al-powered robots will handle vacuuming and mopping, skillfully navigating around objects to ensure thorough cleaning. With the ability to clean various surfaces and seamless integration into smart home systems, these innovations will keep our homes spotless with minimal effort.



Health Monitoring and Wellness Integration

Smart Furniture: Mattresses will track sleep patterns and adjust for better rest. Chairs will monitor your posture and suggest movement when needed. Even mirrors will help assess skin health and recommend skincare routines.

Al-Powered Home Gyms: Smart gyms will offer personalised workout plans, with Al trainers adapting exercises to your needs and giving real-time feedback on your form. Some systems will even use virtual reality to make workouts more engaging.

Home Health Monitoring: Diagnostic devices like smart mirrors and toilets will provide daily health check-ups, detecting early signs of potential health issues and ensuring timely prevention and wellness management.

Enhanced Security with AI and Biometric Systems

The future of home security will rely heavily on AI and biometric technologies, making our homes safer and more secure.

Al-Based Surveillance: Smart homes will use

Al to analyse security footage in real-time, distinguishing between normal activity and potential threats. These systems will learn from patterns, recognising familiar faces and pets, while integrating with other smart systems to automatically lock doors or trigger alarms when needed.

Biometric Access Controls: Traditional keys will become a thing of the past. Fingerprint and facial recognition will allow for seamless and secure entry to your home. This technology eliminates concerns about lost keys and allows you to grant temporary access to guests or service providers. It also enhances security by using multi-factor authentication.

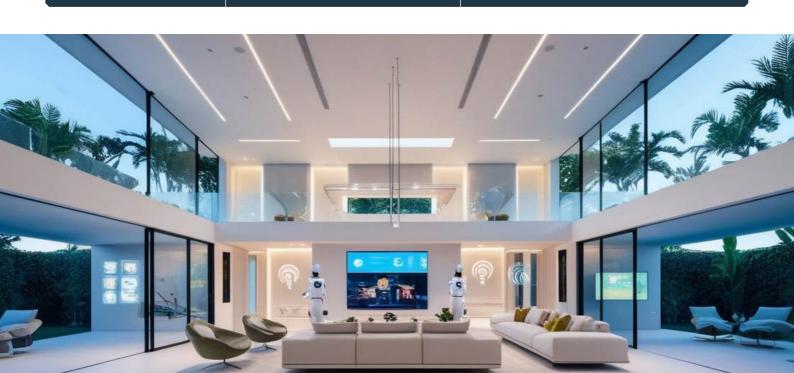
Proactive Threat Detection: Al will also monitor for unusual sounds, movements, or environmental hazards like gas leaks. Additionally, it will safeguard your home network against cyber threats and even coordinate with community security systems for broader protection.

These innovations will ensure that home security systems not only react to threats but prevent them before they occur, offering a safer, smarter living environment.

Current vs. Future Smart Home Features

To better understand the evolution of smart home technology, let's compare some key features of current smart homes with what we can expect in the next decade:

Feature	Current Smart Homes	Future Smart Homes
Al Integration	Basic voice commands and preset routines	Advanced Al with deep learning and predictive capabilities
Energy Management	Smart thermostats and energy-efficient appliances	Fully integrated smart grids and zero-energy homes
Home Automation	Limited automation of specific tasks	Comprehensive automation of household chores and daily routines
Health Monitoring	Basic fitness tracking through wearables	Integrated health diagnostics through furniture and household fixtures
Security Systems	Camera-based surveillance and smart locks	Al-powered threat detection and biometric access controls
Personalisation	User-configured settings and preferences	Al-driven deep personalization adapting to individual needs
Sustainability	Energy-efficient appliances and smart metering	Comprehensive water and energy conservation systems
Connectivity	Wi-Fi and Bluetooth- enabled devices	Advanced IoT integration with 5G and beyond
User Interface	Smartphone apps and voice assistants	Holographic displays and brain- computer interfaces
Maintenance	Manual scheduling and reactive repairs	Predictive maintenance and self- repairing systems



Smart Home World speaks to Experts to provide an in-depth look at the future of home automation. Their expert opinions outline the futuristic advancement, we can expect in smart homes over the next ten years.





Ajay Kamath, CEO, Sounds Good AV & **Automation**

I foresee that AI will greatly contribute to eliminating the human factor that still exists even in the smartest of smart home systems. Al will be able to monitor user patterns, behaviour, and responses far more accurately and use that data to create customisation and automation. As an example, Al could monitor using a range of sensors, data such as the wake-up and sleep time of a person, their climate control preferences, the lighting used

for different times of the day/months of the year etc. By analysing this data, AI can observe patterns and use it to create automation that could virtually need zero human input. With the user's permission, AI could also "eavesdrop" on casual chatter in the house and use those cues to guess what the occupants may be planning next, like for instance their intention to watch a movie or have a shower, and recommend whether the AI assistant should put into motion any activity that would help with the same such as starting up the home theatre or firing up the bathroom water heater.

We strongly believe that voice assistant-based control, buoyed by the advancements in AI will turn into the preferred control mode of the future, with the ability to integrate deeply and allow voice commands to perform complex operations on connected devices. At our end we are working towards integrating voice control into more projects and educating clients to the benefits and ease of use it brings to them.





Arun Mandava, MD Hometek

Ten years is a very long time in the smart home industry as things have been changing so fast. One major change I foresee is the adoption of Al. Although it is already in use with Alexa and Siri to a smaller extent currently, the possibilities become endless with right adaption of AI in the future.

It can become your virtual assistant in running household chores etc. Another trend will be the use of robotics in home automation to run everyday jobs such as washing dishes to scrubbing floors. The combination of AI and Robotics is scary but inevitable.

We have been working on few projects where utilities such as power, water and indoor air quality are being monitored and managed. Thanks to the ever-growing ecosystem of KNX-based sensors, this functionality is being achieved easily and cost-effectively. Smart home now needs to take care of the well-being of the owner, along with utilising nature as ever so rapidly depleting resources. With the possibility to monitor indoor air quality, the smart home can remove the bad air and bring fresh air to ensure indoor air quality is always maintained to ensure residents' well-being.





Anirudh Bhaskaran, Industry Principal, Frost & Sullivan

Frost & Sullivan estimates the Indian smart home market to reach between ₹56,000 crores to ₹61,000 crores (\$6.75 billion to \$7.25 billion) in 2024, growing at a CAGR of nearly 12% from 2020 to 2024.

The Indian smart home market is poised for significant growth in the coming decade, driven by factors like increasing internet penetration, rising disposable income, and a growing tech-enabled population. This growth is further driven by the desire for sustainable, secure and comfortable homes.

The smart homes of 2034 will likely feature advanced technologies such as Al, AR/VR, IoT, and energy-efficient solutions. Al

will personalize experiences for optimised indoor climate control and optimize energy consumption through Al-powered energy optimisation devices. The next-generation IoT will enable seamless connectivity between devices and voice control. Energy efficiency will be a priority in exploring deeper synergies with the integration of vehicle-to-home energy management (investigating the feasibility of utilizing electric vehicle batteries for optimal home energy management), renewable energy sources and evolving grid compatibility. Home security will be enhanced with advanced surveillance and access control.

Health and wellness will be supported by remote health monitoring and personalized recommendations wearable gadgets and virtual Al-powered health assistants. Entertainment through personalized immersive experiences become increasingly prominent, as exemplified by the recent introduction of Apple Vision Pro and other devices. These devices offer a glimpse into the future of entertainment, where users can enjoy highly personalized content in immersive virtual and augmented reality environments. The smart home of 2034 in India will be a blend of cutting-edge technology and thoughtful design, enhancing the quality of life for its residents.





Bhavesh Doshi, KNX Tutor, LEED GA, IGBC AP, EDGE Expert, GEM CP, CIT, IST, RNS. Founder of Entelechy Group of Companies.

As we look ahead to the future of smart homes, it's exciting to think about the advancements that will shape the industry. In the future, smart homes will be Al-driven, with most tasks and functions managed by the system

without user intervention. The system will learn from interactions with users and their homes, providing a personalized experience. Augmented reality (AR) applications will also become more prevalent, offering interactive 3D interfaces that provide visual presentations of device activities and objects.

Voice-driven ecosystems will evolve to become indispensable, working as Personal Digital Assistants (PDAs) that respond to and recognize users by voice. Face and gesture recognition will also become more prominent, making system usage more personalized. Comfort, convenience, health, and energy savings will be major factors influencing users' decisions to select smart home systems.

At the heart of smart homes will be multiprotocol gateways and intelligent hubs, facilitating cloud connectivity and taking care of users' logical requirements. Systems upgrades and updates will be automatic, ensuring that users always have access to the latest features and security patches.

Controllers and devices will be driven by System-on-Chip (SoC) technology, which operates independently and can be updated with new firmware to change their functionalities. Most systems will be wireless and part of ecosystems, seamlessly working with each other through gateways and cloud connectivity. Interoperability will be key, driving demand and adoption as different ecosystems work together in the same network.

In the future, smart home systems will be able to perform predictive maintenance and self-healing, ensuring that homes always run smoothly and efficiently. AR applications will provide visual presentations of device activities and objects, enabling effective asset and

facility maintenance. With advanced AI and machine learning capabilities, smart homes will become more accessible and inclusive for people with disabilities, the elderly, and others with special needs.

Cybersecurity will also become a top priority, with advanced features built into systems controllers and infrastructure to protect users' personal data and prevent hacking. Finally, smart home systems will be designed with sustainability and energy efficiency in mind, reducing waste and minimizing environmental impact.

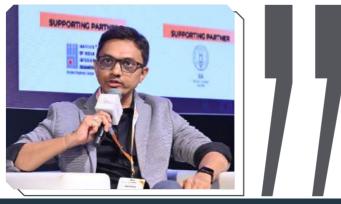
As we look to the future of smart homes, it's clear that the next 10 years will be shaped by significant advancements in user experience, systems controllers, and infrastructure. With a focus on AI, AR, and sustainability, smart homes will become more comfortable, convenient, and environmentally friendly.



Chirag Fadia, Director, Image Solutions

The adoption of smart home technology will rise significantly. This technology which was earlier restricted to HNI/ big-ticket clients is now widely implemented by the common man. New homemakers/buyers aspire to have a fully automated and connected home.

A lot of devices are now IoT-enabled. Apart from lights, fans, ACs, and TVs, we plan to incorporate various other devices like the coffee machine, washing machine, oven, etc. into the automation setup. These will increase productivity and improve the comfort living of our clients.



Harsh Mehta, Managing Partner, Future Automation Solutions

As a home theater and technology specialist, I've noticed that the next significant trend in

home automation is the integration of Al. Our smartphones already handle numerous tasks, tracking our routines, such as when we wake up, arrive home, and interact with our lighting. With Al, these devices could predict our needs, offering timely notifications and automating actions based on our habits. This evolution will transform automation from merely sophisticated to truly intuitive.

We're excited to embrace several advancements in this space. First, we are focusing on smart sensing solutions. While we currently enhance various elements of home automation—like lighting, air conditioning, curtains, and music—

we plan to introduce fragrance solutions to create a more immersive environment.

Additionally, we aim to integrate wellness solutions that leverage smartphone and wearable technology, specifically tailored to support senior citizens. These three areas—fragrance, wellness, and smart sensing—are our immediate priorities.

Looking ahead, AI will play a crucial role in advancing home automation systems. We also expect significant developments in wireless technologies, such as Casambi and other wireless lighting control systems, due to their flexibility and user-friendly nature. Although costs may still align with KNX systems, the adaptability and scalability of these wireless solutions make them highly attractive.





Ganesh Vudutha, Partner, EDOMOTICS Smart Systems

Al technology is evolving at a very rapid pace and with the help of Al in software and hardware development, we can expect it to go faster. Al will play a very important role in the home automation industry as well. Especially, the usage of automation at home will become self-learning and intuitive. At also gives the system the avenue to customize and personalize the whole automation experience at a user level.

Though there is reasonable standardization in terms of technology. However, there are still multiple technologies or protocols in the market and this sometimes necessitates the home owner to use multiple apps and systems. Interoperability is the answer. Matter could be the answer but it will take a few more years to know for sure. Smart homes will focus on energy efficiency and sustainability, using renewable energy sources and optimizing energy consumption.





Jaleel Sabir, Founder, Mahavir Soundroom

Smart home technology is now at a stage where everyone has accepted it as a way of life. Every new home today has smart home technology in some way or the other. Going forward AI will play a major role in evolving the smart home and making it more personalised. It will start adapting to an individual's lifestyle and will

keep learning the pattern of preferences and habits and be more personalised.

Health will be a big leap in Smart home tech in the coming years. With sensors which can detect fall, smart mirrors that can monitor vitals and wellness tracking, smart pill boxes etc. will help old age people monitoring and providing early treatments. In case of a fall it can also connect to the nearby hospital, open the main door lock for easy access, Inform the near and dear by sending alerts, etc.

Security will be more advanced with cameras that can detect faces, do eye scans and also create virtual fencing, and act as an intrusion detection system. Can also read car numbers and allow registered vehicles by opening the gates.

All this is possible today as well but will become more connected and will communicate with other devices to make a more cohesive smart home ecosystem.





K.Karthik, Smart Home Consultant and Coach

Future smart homes will feature intelligent lighting that adapts to user behavior, room conditions, external weather, and even mood, storing patterns for personalized control. For instance, the system can automatically dim the lights for movie nights or adjust brightness to mimic natural sunlight in the morning. By learning optimal lighting adjustments, these systems not only enhance comfort but also improve energy efficiency, reducing power usage when it's not needed.

Homes will increasingly depend on smart energy monitors that optimize consumption and integrate seamlessly with renewable energy sources like solar panels. The future of security will extend beyond traditional alarms. Al will monitor user patterns, recognize regular visitors, and detect unusual activities. For example, facial recognition can grant access to family members while sending alerts for unknown individuals. Enhanced access controls, such as fingerprint or voice authentication, will ensure maximum security and peace of mind.

The next generation of smart homes will seamlessly blend music and voice commands to enhance user experience. For example, background music can automatically lower during conversations, allowing voice commands to be executed clearly without interference. This integration will make home systems more intuitive, providing smoother and more enjoyable interactions.

Smart homes will incorporate advanced monitoring systems that allow remote control of various devices and provide real-time analytics for preventive maintenance. Homeowners will be able to check appliance status remotely, receive alerts for malfunctions, and even schedule repairs before breakdowns occur. This not only enhances convenience but also extends the lifespan of devices, ensuring optimal performance over time.





Maulik Unadkat, Founder, Beyond Alliance

The pace at which quality intelligence is being embedded into smart homes, AI will study human behaviour with the closest accuracy in the coming decade. The home will think like us and for us. Devices will begin to become self-reliant, not needing any human intervention for predictable tasks.

Every single electrical and electronic device will speak the same language and communicate with native apps like Apple Homekit and Samsung Smart Things intuitively.

Just how Apple music playlists have evolved beyond genres of songs to moods. There are playlists called Bored which can pep you up with the right kind of music. Similar exciting times await us as technology will machines learn human psychology and make homes tune in to our behaviour.

We have seen technology evolve every few months for last 15 years. Fifteen years ago expensive touchscreens (named HMIs-Human Machine Interfaces) were manufactured by automation brands which were bulky and ugly. Today we call them ipads or tablets they have become a norm. Automation is penetrating in every home in more ways than one.

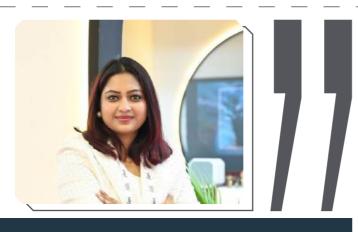
In days of Win amp players, where downloading even a song was a feat, today we are streaming 4K content so easily in billions of devices. Casting music across each room is now becoming easy and a must. In the hustle of this fast-paced work, immersive formats of experiencing audio and video are helping turning out to be stress busters.

We at Beyond Alliance are investing a lot on bringing global trends into luxury homes in India. We can now securely help you set up your own voice assistant instead of using Siri, Google, or Alexa which some like to stay away from. For Apple Homekit users, we are integrating every local electrical and electronic

device into Apple's native app and bringing every device to the iOS ecosystem.

Technology is one space in which every software update upgrades the user's lifestyle bit by bit. We stay connected to each of these hardware and software updates and push the latest updates to all our designs. In fact, most of our designs are so forward-compatible that we can convert a 15-year-old Crestron setup into an Apple Homekit home even today.

That is only possible because of the strong infrastructure we create in each project to not only incorporate today's trends but even tomorrow's.



Neha Jain, Founder, Techvault

I envision smart homes evolving into fully integrated ecosystems that seamlessly blend convenience, sustainability, and personalized living over the next ten years. Advances in Al will enable homes to intuitively adapt to the preferences and routines of their occupants, with voice control evolving into context-aware systems that anticipate needs without manual input.

Sustainability will take center stage, with energy-efficient solutions like solar power management, smart metering, and human-centric lighting becoming standard, actively contributing to reducing carbon footprints. The integration of data from various sensors will be crucial, particularly in Building Management Systems (BMS), making automation a necessity across all sectors. Smart climate control will adjust heating and cooling based on occupancy, while smart

lighting will adapt to natural light levels, both of which will enhance energy savings. Advanced analytics will facilitate predictive maintenance, minimizing unexpected breakdowns and extending equipment lifespan.

As automation becomes vital across all sectors, the demand for seamless technology integration will grow, leading to safer and more sustainable living environments tailored to our needs. Security will also see major advancements, utilizing biometric technologies and real-time threat analysis for a proactive approach to home safety.

Moreover, wellness technology will gain prominence, allowing smart homes to monitor and enhance residents' health through air quality sensors, human-centric lighting, and personalized fitness tracking. This evolution will create environments that promote both physical and mental well-being, fundamentally transforming our relationship with our living spaces.

Our upcoming projects will feature adaptive lighting, self-regulating energy management systems based on usage patterns, and intelligent audio-visual setups that enhance entertainment experiences tailored to user preferences.

Additionally, we will incorporate a variety of sensor data, such as weather detection, light level (lux) measurements, sun tracking

systems, and air quality calculations. This data will provide a more comprehensive understanding of automation in both residential and commercial projects.

The integration of renewable energy systems with smart energy storage will also be critical in achieving energy independence for homes. Our advancements will not only enhance control and convenience but will also offer

long-term benefits like cost savings, improved security, and reduced environmental impact. We prioritize ease of use for our clients.

ensuring that despite the complexity of these systems, they remain user-friendly and straightforward to operate. We aim to create future smart spaces that meet the demands of modern lifestyles while contributing to a smarter, healthier, and more sustainable world.





Sudip Saha, Managing Director and Cofounder, Future Market Insights

A decade from now, smart homes will be characterized by deep integration between Al-driven automation, interconnected ecosystems, and innovation for sustainability. Homes will become intuitive and more capable of anticipating the needs of their users, furthered by machine learning algorithms and predictive analytics.

There will be an open web of "things" through the Internet of Things, and smart devices such as smart thermostats, lighting systems, kitchen appliances, and security solutions will talk to one another to automatically optimize their functions. The basic smart features will be managed by voice-activated AI assistants in homes, touching on energy consumption and entertainment preferences.

An energy-saved smart home with solar panels and Al-based energy management systems, optimizing their usage by balancing the need for energy from the real-time grid conditions, storage systems, and weather conditions outside.

Future smart homes will also ensure complete security through biometric access with the

assistance of facial recognition systems or Alpowered monitoring systems, which can be proactive in detecting any unusual activity and alerting the homeowners or relevant authorities.

Health monitoring systems in-licensed into homes will track and monitor air quality, sleep patterns, and even vital signs through smart wearables or connected devices, allowing for just-in-time health interventions and personalized recommendations.

Projections for Smart Homes in India in terms of Market Growth, Technological Advancements, and Acceptance in Urban and Tier-Two Cities. With increased internet penetration, reduced costs of IoT devices, and consumer demands for convenience and security, India's Smart Home Market is expected to grow rapidly. The combined growth prospects of the smart home market in India are expected to be 20-25% by 2034, especially with growing ecosystems in urban and semi-urban centers. As 5G networks are rolled out across India, faster and more reliable connections will enable and further support the growth of smart ecosystems.

Al platforms, smart sensors, and home automation hubs will bring together in urban centers sophisticated, highly customizable smart home experiences. Tech startups in India will play a major role in the development of localized solutions meeting such energy efficiency, water management, and security requirements. The integration of Al and edge computing will also reduce dependence on the cloud and help in faster real-time decision-making processes.

Smart homes will pick up much quicker in cities due to the presence of rich and techie customers. It will be massive in Tier Two cities

with the reduced cost of automation and IoTbased products as well as with the entrance of Xiaomi, Amazon, and Google, which now can bring smart products into affordable price ranges. Automation will be adopted by the middle class in its basic utilities, security systems, and entertainment. The Indian government's push for smart cities will further help in infrastructure development for wider adoption of smart home applications.





Abhilash Srinivas, Managing Director, Incygys Automation

Thefuture of smarthometechnology in the next decade is set to witness remarkable progress, fueled by a combination of new technologies and consumer needs. Personalisation of homes will become increasingly intuitive, with AI analysing daily routines to automatically adjust settings like lighting, temperature, and security according to individual preferences.

Al will assist in forecasting potential failures in home appliances, HVAC systems, and other devices, ensuring repairs are made before breakdowns occur.

The drive for interoperability among various devices and platforms will persist, simplifying the control of different brands from a single interface. Initiatives like Matter, which aims to unify smart home devices, will support this trend.

Smart home devices will increasingly rely on natural language processing, enabling users to engage with devices in a more conversational manner. New developments in gesture control will allow homeowners to manage smart devices with simple hand movements, providing a touch-free experience.

Homes will enhance energy efficiency through smart energy management systems that monitor consumption in real-time, optimize energy usage, and connect with renewable energy sources like solar panels.

Grid Interaction: Smart homes will engage with the power grid to manage electricity during peak periods, sell surplus energy back to the grid, and lower overall costs. Plus, the rollout of 5G will facilitate quicker communication between devices, enabling real-time automation and control of a greater number of devices throughout the home.

An increasing array of household items, from kitchen appliances to furniture, will feature embedded sensors, enhancing connectivity and functionality.

Incygys Group will be at the forefront of enhancing modern living with innovative smart technologies. Our Al-driven HVAC systems will optimize airflow and energy usage based on occupancy and air quality, improving efficiency and comfort while enabling predictive maintenance.

We will introduce smart central vacuum systems with IoT connectivity for real-time monitoring and automated cleaning, alongside enhanced ELV networking that will integrate security, lighting, HVAC, and energy management into a single platform.

As experts highlight the future of smart homes, it's evident that embracing these technologies can greatly enhance our lives. By adapting these smart innovations, we can create a more connected and efficient future, improving our lifestyles and contributing to a better world.

The insights from experts reveal that the future of smart homes holds immense potential to enhance our lives. Let's be ready to welcome the smart home revolution.



The Role of Smart Appliances in Transforming Kitchen

Smart Home World explores a range of Smart Appliances—from smart refrigerators and ovens to dishwashers and induction cooktops—showcasing how they simplify meal preparation and enable homeowners to manage tasks remotely.

The kitchen, over the years has transformed from a purely functional space to a vibrant area for socializing and cooking. Today, smart kitchen is equipped with advanced appliances that help the homeowner to multi-task enhancing the entire mundane process of cooking into an interactive shared experience with guests and family. In addition, these smart

appliances also provide the users convenience, where they need not be present at home as they can control everything over an app.

In India, smart kitchens are still not as popular as modular kitchens, but the market for smart appliances is on a positive growth trajectory. The variety of smart appliances available for

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modern kitchens is wide, ranging from coffee machines and smart refrigerators to smart ovens, dishwashers, smart hobs, and smart chimneys to name a few. These innovative appliances not only simplify cooking but also offer real-time updates and alerts, enabling homeowners to manage tasks remotely.

There are various factors that drive the appliance segment one among them is energy efficiency. Smart appliances include features that monitor and reduce energy consumption, leading to lower utility bills and a smaller environmental footprint.

Adding her insight on how the homeowner's perception has changed over the years Ar. Bhavya Kenkera, Archaid, says, "Smart kitchens in India are not widely adopted

but there is a demand to incorporate smart appliances as they are affordable and easy-to-install and operate." She further adds, "Smart appliances were the last thing on mind for the homeowners few years back when planning a kitchen. But now they are very mindful in selecting oven, chimney or fridge. I have seen a drastic shift in the behaviour of homeowners who are doing away with a conventional microwave and instead replacing it with Smart Ovens, Smart Chimney and Smart Refrigerator."

Adding their insight on the advantage and selecting the right appliance, Ar. Komal Mittal and Ar. Ninada Kashyap, Partners, Alkove-Design adds, "Smart kitchens are all about making life easier—they save time, reduce energy costs, and streamline everyday tasks. With connected appliances that can adapt to how you cook, it's a great way to bring efficiency into the kitchen. Plus, they help cut down on food waste by tracking expiration dates. The key is to choose devices that fit your routine and truly enhance both the functionality and feel of your kitchen."

Advantages A Smart Appliance Provides to Indian Homeowners

Smart appliances play a crucial role in transforming the kitchen into a smart space, fundamentallychanging how we cook, manage our homes, and interact with technology. One of their key benefits is convenience and automation; devices like smart ovens and Smart coffee makers allow users to automate routine tasks, enabling preheating or programming cooking time remotely. This saves time and effort, making meal preparation more accessible. Additionally, these appliances often connect to home networks, allowing for control via smartphone apps or voice assistants, which provide real-time updates and remote management capabilities.

Moreover, smart appliances improve the cooking experience with advanced technologies like precision temperature control and built-in cameras, making it easier to experiment with new recipes. They also support health and nutrition monitoring by suggesting recipes based on available ingredients or providing nutritional information, helping users make healthier choices. Finally, these appliances

can be integrated into broader smart home ecosystems, allowing them to work seamlessly with other devices, such as setting routines where the coffee maker starts brewing as the smart blinds open in the morning.

One of the standout trends is the integration of the Internet of Things (IoT) into everyday appliances. As consumers become more aware of the advantages offered by smart technology, the demand continues to surge. Many are drawn to the convenience of automating daily tasks—imagine being able to start your washing machine or preheat your oven from anywhere. This newfound control allows for real-time monitoring of home systems, providing peace of mind, especially when users are away.

BRAND AND OFFERINGS

Samsung's SmartThings Station is easy to set up making it easy to automate pre-set routines created via the SmartThings Mobile App without requiring users to individual control devices manually. When one is leaving home, SmartThings Station can turn Off power outlets unused appliances to save energy. Samsung's new Bespoke Al Oven is promising to be that virtual chef. The oven's smart camera is capable of food recognition and burn detection, which means it can recognize up to 80 different and dishes recommend cooking settings for each of them. With the SmartThings App, this new smart oven also promises to recommend meals based on your workout stats, diet goals, and the ingredients you have at home.



The Samsung Smart Refrigerator is a game-changer for modern kitchens, boasting a range of innovative features. With Wi-Fi connectivity and a built-in touch display, you can easily monitor and manage your food inventory. Internal cameras allow you to check food items remotely, while the refrigerator tracks expiration dates and suggests recipes based on available ingredients. It seamlessly syncs with grocery delivery services, making restocking a breeze. Plus, it's voice control compatible with Google Assistant and Alexa, adds another layer of convenience.

Ideal for busy families, culinary enthusiasts, and tech-savvy homes, this smart refrigerator is suitable for both residential and commercial use, particularly in high-end kitchens. Its unique selling proposition lies in its ability to eliminate food waste through automated monitoring of expiry dates and ordering. Additionally, the refrigerator features energy-efficient cooling cycles that adapt to your usage patterns, ensuring optimal performance. With smart recipe suggestions based on what you have inside, it truly enhances your cooking experience.

Naeem Chauhan, Founder & Managing Director, Kuche7 says. "Smart appliances are the heart of the modern kitchen, transforming routine tasks into opportunities for creativity and connection. They empower us to cook with ease, embrace culinary experimentation, and enjoy more quality time with loved ones, all while elevating the overall experience of home cooking."



The **Invisacook** is an innovative induction cooktop that operates seamlessly beneath the surface of your countertop, offering a truly unique cooking experience. With its ultrathin design and responsive touch controls, this invisible cooktop is perfect for open-plan kitchens, minimalistic designs, and modern homes. It is particularly suited for show kitchens and luxury installations, where aesthetics and functionality go hand in hand.

The standout feature of the Invisacook is its

ability to transform the countertop into a dualpurpose space, serving as both a cooking surface and a prep area. Its energy-efficient, instant heat transfer technology ensures quick and effective cooking, while realtime temperature control allows for precise adjustments. Additionally, the automatic pan detection feature enhances safety and convenience by adjusting heat levels based on the cookware used.



Ideal for island kitchens and open-plan designs, the Miele Downdraft Chimney is perfect for luxury kitchens where aesthetics is a priority. Its unique selling proposition lies in its discreet design, which keeps the kitchen uncluttered and provides an unobstructed view while cooking. With innovative features like an advanced filtration system for superior grease and odour control, along with its retractable design that saves space, this chimney seamlessly blends style and performance in any modern kitchen.

The KXN Pop-Up Socket offers a sleek, wireless design that seamlessly blends into your countertop, providing a stylish solution for your power needs. Equipped with USB ports, it allows for the convenient charging of multiple devices, making it an essential addition to any modern kitchen.

This pop-up socket is particularly ideal for kitchen islands, workspaces, and areas where a clutter-free design is paramount. It's especially suited for smart kitchens that accommodate numerous gadgets and appliances. Its unique selling proposition lies in its discreet design, which minimizes clutter while ensuring easy access to power sources when you need them. Innovative features include wireless integration with smart home systems, allowing you to control connected devices effortlessly.



Additionally, its modular design facilitates future upgrades and customizations, ensuring that it remains relevant as your needs evolve.



Neeraj Bahl, MD & CEO, BSH Home Appliances (India & SAARC) adds, "The home appliances from Bosch with the Home Connect function open up new possibilities in your home. You can now control and monitor all your appliances remotely and conveniently from your smartphone or tablet. Bosch home appliances are designed as an open system, Home Connect expands your product experience further with new services and functions. For example, thanks to our partnership with "HelloFresh" you can transmit their cooking recipes directly to your Bosch oven, which then automatically adjusts to the ideal cooking settings for a perfect

result. This leaves you more time to spend on the more important things in life: like a good conversation. All you need is a smartphone or tablet with Wi-Fi. The Home Connect app for these appliances can be downloaded for free from the App Store or the Google Play Store."

The new **Bosch Series 8** accent line sensor oven comes with artificial intelligence (AI) built-in, providing users with an unprecedented smart cooking experience. All the user has to do is select the appropriate cooking program on the smart oven's touchscreen or in the Home Connect app, and then slide the dish into the oven.

The Bosch Smart Dishwasher redefines convenience and efficiency in dishwashing. Equipped with Wi-Fi connectivity, it offers multiple washing cycles, including an ecomode, tailored to meet various needs. Smart sensors intelligently detect load size, optimizing water and detergent usage for each wash. You can monitor and control the dishwasher remotely through a mobile app, ensuring that you stay connected to your kitchen tasks even when you're away. Additionally, the self-cleaning feature and smart diagnostics enhance maintenance ease.

Ideal for families and professionals who prioritize efficiency, this dishwasher is suitable for both home and commercial kitchens. Its unique selling proposition lies in its smart technology, which significantly reduces



water and energy consumption, making it an eco-friendly choice. With innovative features like auto-sensing for load optimization and Al-driven cleaning algorithms, the Bosch Smart Dishwasher ensures that every cycle is tailored for optimal performance, making your dishwashing experience seamless and sustainable.

The Bosch Smart Induction Cooktop redefines cooking with its innovative features and user-friendly design. It boasts a sleek touchscreen interface that allows for multi-zone cooking, complemented by voice-activated commands for effortless heat adjustments. Safety is a top priority, with features like auto-off and a child lock, ensuring peace of mind in the kitchen. Additionally, built-in timers and precision temperature control enhance your cooking experience.

This cooktop is perfectly suited for modern kitchens that prioritize efficiency, safety, and tech integration, making it an excellent choice for eco-conscious homes and professional kitchens alike. Its unique selling proposition lies in its exceptional energy efficiency, achieved through precise heat transfer and automatic shut-off. With innovative capabilities such as voice-controlled cooking that integrates seamlessly with smart home



assistants and real-time energy consumption monitoring, the Bosch Smart Induction Cooktop is designed to elevate your culinary experience while promoting sustainability.

The Bosch Coffee Machine allows you to conveniently order your favorite brew directly from your phone or tablet, thanks to its advanced smart technology. This automated coffee machine offers a wide range of coffee varieties, from espresso and cappuccino to latte and macchiato, ensuring that you can satisfy your caffeine cravings with ease. The Coffee Machine provide an option to customize coffee preferences, including strength, temperature, and milk froth level.



The Hindware Smart Appliances Optimus I-Pro is one of India's first IoT-enabled chimneys with MaxX Silence Technology, which produces 32% less noise than traditional Auto-clean Kitchen Chimneys. Equipped with Thermal Autoclean Technology, it helps in easy maintenance and cleaning of the chimney from the inside without any added hassle of doing the same manually. It provides a realtime clock in display and comes with filterless technology that is ideal for heavy-duty cooking in Indian kitchens due to its better suction capabilities. Being a smart appliance, the chimney features a stunning touch control panel and motion-sensing technology that simplifies the cooking experience with just a simple wave of your hand. It can be connected to the Hindware Smart Appliances



mobile application and can also be operated from any corner of the house using Alexa and Ok Google. The application helps the users to get alerts to clean the chimney, control the suction speed, switch on/off the appliance and the facility to book a service appointment.

Balakrishnan Pillai, Business Head, Hafele Smart Appliances adds, "Häfele India is committed to enhancing the kitchen experience with a range of advanced appliances, including dishwashers, cookerhoods, microwave ovens, kitchen appliances, and gas hobs. Each product is designed with innovative features and advanced functionalities that cater to the modern kitchen environment."



Cookerhoods Hafele are provide engineered to powerful ventilation while maintaining quiet operation, ensuring a pleasant cooking environment. Equipped with Technology, Filter-Free Brushless DC motor and smart sensors, these cookerhoods automatically adjust their power based on suction cooking intensity, effectively removing smoke and odours while conserving energy.



Hafele dishwashers stand out with their energy-efficient designs and smart features, such as customizable wash cycles and sensor technology that optimizes water usage based on load size. These also feature advanced capabilities like UV Disinfection and hygiene wash that offer perfectly cleaned utensils that are safe to use. The sleek and modern designs seamlessly integrate into any kitchen aesthetic, offering both efficiency and style.



KAFF OV81 AMSTF built-in oven combines sophisticated technology, modern design, and user-friendly features to enhance your

cooking experience. With its Wi-Fi connectivity and app control, this oven brings convenience to your fingertips, whether you're preparing everyday meals or hosting a special dinner. The 60 CM Electric Oven features 3D Hot Air Technology, which ensures even heat distribution for baking,

roasting, and grilling. The Air Fry mode allows you to enjoy crispy, fried foods with minimal oil, promoting healthier meals without sacrificing taste. The Smart TFT Touch Control Panel provides a high-resolution interface for easy navigation through multiple settings,

enhancing both functionality and aesthetics. With improved image quality and contrast, all options are easy to read and adjust.

Manage your oven remotely via Wi-Fi-enabled app control, allowing you to preheat, adjust temperatures, and monitor cooking

from anywhere. The premium black glass fascia and stainless steel handle add a modern touch to your kitchen.



LG ThinQ offers the best and ideal smart kitchen appliances for smart kitchens. LG's ThinQ range uses Al which makes communication between appliances possible. LG smart fridge has a new AI addition. If you have an LG InstaViewThinQ refrigerator and an LG InstaViewThinQ dishwasher, the fridge will be able to inform the dishwasher that a huge load is on the way. Amazon Alexa reads out the recipes and lets you add items to your shopping list. Also, touch sensors, LCD screens, and running webOS are the additional features that make the range extremely intelligent. LG is undoubtedly one of the leading Indian home appliance brands. LG Insta-View Smart Wi-Fi Enabled 21.9-cu ft Counter-Depth French Door Refrigerator consists of a Dispenser Light, Door alarm, LED Light, Water filtration, and water filter indicator. This refrigerator has features like Voice Controlling, Wi-Fi controlling, Alexa control, Android and iOS controlling, and Google Assistant.

The LG 675 L Inverter Wi-Fi Frost-Free Sideby-Side Refrigerator has an array of features to ensure your food items stay fresh, natural and preserved. One of the most useful features of the smart fridge is Hygiene Fresh+, a 5-step



antibacterial deodorisation that removes bacteria up to 99.9% and minimises bad odour in the refrigerator. At the front is a chiller compartment which gives you quick access to the food you need. Additionally, digital sensors monitor and respond to warm food and open doors, instantly maintaining optimum interior temperature. If you download the LG ThinQ App on your phone, you can even monitor the fridge and its contents remotely.



Looking ahead, Smart Appliances are set to revolutionize kitchens with innovations like advanced AI that tailors cooking experiences to individual preferences, seamless device integration, and enhanced energy efficiency.

You can expect smarter systems that adapt to our lifestyles, making cooking easier and more sustainable. This evolution will transform kitchens into hubs of creativity and connection, elevating the overall home experience.

"Properties With Integrated Automation Systems Are Perceived As Premium Offerings, Leading To Higher Demand And Better Market Valuations."



JITESH DONGA

Chief of Design, Mahindra Lifespaces

Jitesh Donga, Chief of Design, Mahindra Lifespaces, speaks about the transformative impact of Building Automation Systems (BAS), Home Automation, and **Smart** Lighting technologies modern residential projects. this discussion, Donga shares key insights into trends, successful implementations, and the future of smart living.

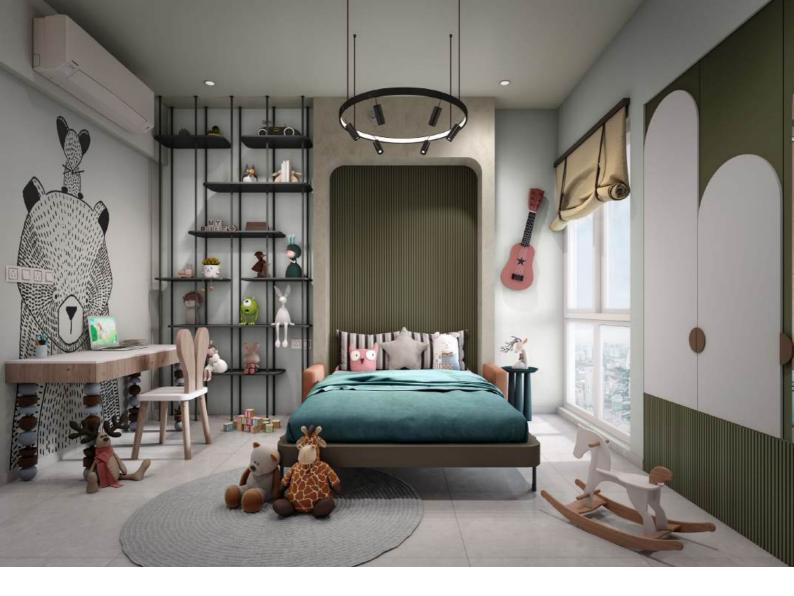
How would you describe the current level of adoption of Building Automation, Home Automation, and Smart Lighting technologies in your projects?

The adoption of Building Automation Systems (BAS), Home Automation, and Smart Lighting technologies is a cornerstone of our project designs. These technologies are integral in enhancing the operational efficiency and energy conservation of buildings. Building Automation Systems (BAS) enable centralized control of building-wide systems such as HVAC, Lighting, Security, and Energy Management.

Home Automation systems offer residents unparalleled convenience and control over various aspects of their homes, from lighting to climate control and security. More and more projects are prioritizing these technologies to deliver smarter, more efficient living spaces.

Have you observed an increased demand or preference among homebuyers for properties equipped with these technologies? If so, how has it influenced market dynamics?

Absolutely, there has been an increase in demand among homebuyers for properties



advanced equipped with automation technologies. Today's consumers are more tech-savvy and environmentally conscious, seeking homes that offer convenience, efficiency, and sustainability. Properties with integrated automation systems are perceived as premium offerings, leading to higher demand and often commanding better market valuations. Developers who provide pre-installed automation infrastructure eliminates the need for retrofitting, which not only maintains the aesthetic integrity of the property but also adds substantial value.

Can you share examples of your projects where you have used the above-mentioned technology? Can you share the brand and smart solution used?

At Mahindra Citadel in Pimpri, Pune, we have seamlessly integrated advanced home automation technologies to enhance living standards. In collaboration with **Zunpluse**, we've introduced a range of smart solutions

designed to elevate the resident experience. Our home-automation offerings include BLDC fans, smart plugs, smart doorbells, and smart locks—essential features that align with current market standards for modern living. These technologies not only offer state-of-the-art security systems and energy-saving mechanisms but also add premium conveniences, making homes more secure, energy-efficient, and comfortable. This collaboration ensures that residents benefit from the latest in home automation, contributing to an enhanced quality of life.

Have you noticed any positive impact on operational costs and long-term sustainability goals through the implementation of the Building Automation System?

The implementation of Building Automation Systems has significantly contributed to reducing operational costs and advancing our long-term sustainability goals. These systems enable the facility management team to



monitor and control essential services and allied systems such as pumps, ventilation fans, DG sets, electrical panels, lifts, and fire alarm systems with greater efficiency. The automation reduces the need for manual intervention, leading to a decrease in labour costs. Moreover, by optimizing the use of energy across various building systems, we enhance overall energy efficiency, which translates into substantial cost savings over time. These efficiencies align with our sustainability objectives, reducing the carbon footprint of our buildings and contributing to greener urban environments.

What training or support do you provide homeowners to help them understand and use these smart technologies effectively?

To ensure homeowners can fully leverage the benefits of smart technologies, we provide comprehensive training and support. Our facility management teams and service providers offer hands-on guidance which will help our residents to understand and operate these systems efficiently. We organize orientation sessions that cover the functionalities and advantages of the installed technologies. Additionally, detailed user manuals and instructional guides are provided by our technology partners, offering step-by-step instructions on the usage and

troubleshooting of these smart solutions. This proactive approach ensures that homeowners are comfortable and confident in using their smart home features.

Have you collaborated with technology partners or vendors to implement these solutions? If so, can you share details about these partnerships?

Yes, we have established strategic partnerships leading technology providers implement these advanced solutions. For instance, our collaboration with **Zunpluse** has been instrumental in bringing the latest smart home technologies to our projects. Zunpluse provides a suite of smart solutions that enhance security, improve energy efficiency, and offer premium conveniences to our residents. These partnerships are vital as they allow us to integrate cutting-edge technology seamlessly into our developments, ensuring our projects meet the highest standards of modern living.

Have you seen any impact on property values due to the integration of smart technologies?

Certainly, the integration of smart technologies has had a positive impact on property values. Homes equipped with advanced automation systems are highly sought after, as they offer

superior convenience, enhanced security, and improved energy efficiency. These features make the properties more attractive to potential buyers, who are willing to pay a premium for such benefits. As a result, properties with integrated smart technologies tend to have higher market valuations and experience faster sales cycles. This trend underscores the value addition that smart technologies bring to residential real estate.

Can you discuss any case studies or success stories where the implementation of these technologies significantly improved the quality of life for occupants or the efficiency of building operations?

One notable success story is our project at Mahindra Citadel, where the implementation of smart technologies is set to significantly enhance both building operations and the resident experience. The future residents will benefit from advanced security systems, offering enhanced peace of mind, along with smart lighting and climate control systems designed to provide convenience and energy savings. The building management team anticipates increased operational efficiency through the automation of essential services, which is expected to lead to reduced energy consumption and lower operational costs. These advancements are poised to contribute

to a more sustainable building operation and a superior living experience for future occupants.

Are there any specific standards or certifications you aim to achieve when incorporating these technologies into your projects?

Yes, we aim to achieve several standards and certifications that underline our commitment to sustainability and energy efficiency. The integration of Building Management and Integrated Energy Monitoring Systems is a critical component of this strategy, helping us to enhance the energy efficiency of our buildings. Achieving green certifications, such as GRIHA and IGBC, is a key goal for our projects, as these certifications validate efforts in creating environmentally responsible and sustainable living spaces. These certifications not only improve the marketability of our properties but also reassure buyers of our commitment to high standards of environmental stewardship.

How do you balance the cost of implementing these technologies with the benefits they provide to homeowners?

Balancing the cost of implementing smart technologies with the benefits they offer is an





essential consideration in our development strategy. By adopting an energy-efficient approach, we manage to reduce the overall energy demand, which in turn reflects in lower common area maintenance charges and reduced electrical bills for tenants. The long-term savings on energy costs and the enhanced property value justify the initial investment in these technologies. Additionally, the improved convenience, security, and sustainability offered by smart technologies significantly enhance the living experience, making it a worthwhile investment for both developers and homeowners.

Can you share any insights on how the adoption of these technologies has evolved over the past few years in your projects?

The adoption of smart technologies in our projects has evolved significantly over the past few years. Initially, these technologies were considered luxury add-ons, but they have now become essential components of modern residential developments. Our experience shows that technology-enabled buildings require less human intervention, offer greater



convenience to users, and substantially increase the energy efficiency of the building. As consumer awareness and demand for smart home features have grown, we have progressively incorporated more advanced and integrated systems into our projects. This evolution reflects our commitment to staying ahead of market trends and continuously enhancing the value proposition for our customers.





Tell us about your experience of using Automation, Smart Lighting, Smart Technology, and Home Theatres in your project.

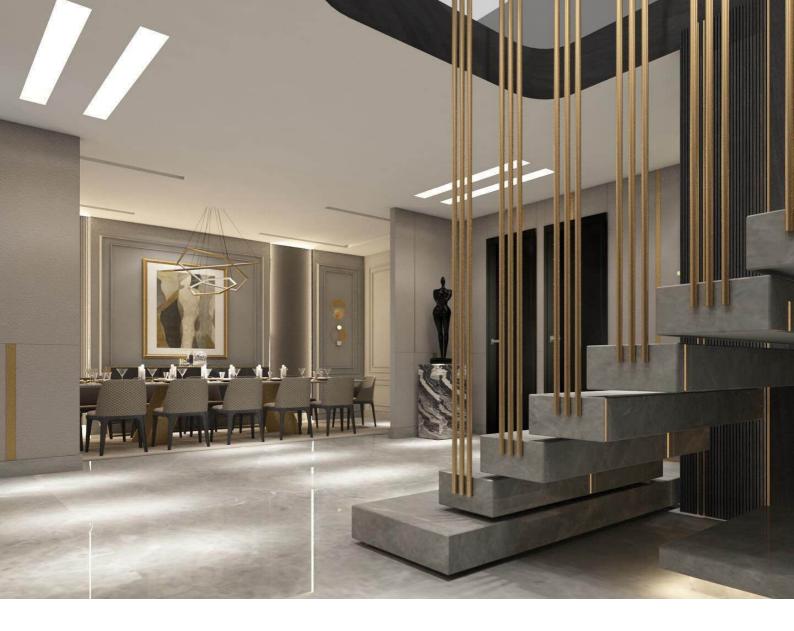
Over the last decade, we have extensively integrated automation into our projects, using brands like **Schneider** and **ABB**. Our focus has been on enhancing comfort and control through smart technologies. While we've

implemented home theaters, we find lounges with large LED screens and high-quality music integration particularly exciting.

What unique advantages do you believe smart lighting brings to interior spaces, both in terms of functionally and aesthetically?

Smart lighting brings significant functional benefits, such as control over ambience with





a single touch. Aesthetically, it transforms spaces, allowing for varied lighting moods that enhance the overall feel of the interiors.

Could you share a standout project where you successfully incorporated smart lighting and automation? What challenges did you face, and how were they overcome?

In our project at Punjab-e-Bagh, we faced challenges with smart lighting and automation, particularly in matching switches and sockets with panels aesthetically. While we found some good systems from certain brands, it has still been a challenge.

Which Home Automation brand do you prefer, and what specific features make them essential to your designs?

ABB is a preferred brand due to its comprehensive automation features. We also

use **Rako** for retrofit projects, ensuring clients get the desired automation within their budget.

When it comes to Smart Lighting and Controls brands, which brands do you prefer for your projects?

Currently, we are using **ABB** and **Rako**, as they provide excellent aesthetics and functionality in automation and lighting.

Can you discuss the importance of collaborating with technology integrators? How do you ensure a cohesive partnership during a project?

Collaborating with technology integrators is vital because automation and smart technologies are no longer a luxury, they represent comfort and a sense of control. This partnership ensures that with just a single





touch, homeowners can create different ambiances and worlds.

Are there any innovative concepts or technologies in Home Theatres that you find particularly exciting? And want to incorporate it in your projects.





We find the concept of lounges with large LED screens and high-quality music integration particularly exciting. This approach focuses on creating enjoyable spaces rather than traditional home theatres, which can often become underused.

Tell us about your forthcoming projects where you have been incorporating Smart Automation, Smart Lighting, and Smart Technology.

We continue to incorporate smart automation, smart lighting, and technology in various projects, including farmhouses and residential areas, emphasizing the importance of automation in both interiors and exteriors for enhanced user experience and convenience.

"99 Percent Of Our Projects Incorporate Smart Lighting Controls, Reflecting Our Commitment To Current Trends."



Khushali Patel

Country Manager, John Cullen Lighting

Khushali Patel, Country Manager, John Cullen Lighting and a member of Women in Lighting India, brings a wealth of experience with her background in interior design and nine years in the lighting industry. Her recent role at John Cullen Lighting has further enhanced her ability to create smart innovative and sustainable lighting solutions. In discussion with Smart Home World, she shares her insights on the growing demand for bespoke smart lighting and the challenges of integrating modern technology into heritage properties and more...

Congratulations on John Cullen Lighting achieving a 43-year milestone, tell us about your journey so far.

John Cullen Lighting has held a special place in my heart. My introduction to this brand began at a dealer's office, and I'm proud to have been associated with it for the past seven months. This experience has been incredibly enriching, providing invaluable knowledge, extensive training, and outstanding mentorship from my director and colleagues.

Transitioning from an interior design background to a technically proficient professional with nine years of lighting experience has been a remarkable journey. As the Country Manager for John Cullen Lighting and a proud member of Women in Lighting India, I find great fulfilment in representing such a discreet and exceptional brand for my beautiful country, India.

Can you describe your approach to providing smart lighting solutions for different types of projects (e.g., residential, commercial, and heritage properties?

Smart lighting solutions refer to advanced lighting systems that leverage technology to enhance control, efficiency, and user experience. At John Cullen Lighting, we are passionate about smart lighting solutions, especially through our collaboration with **Lutron**, a leading automation control company. Our approach focuses on delivering user-



friendly solutions that create the perfect ambiance for any occasion while reducing your carbon footprint. By utilizing smart technology, we ensure that our lighting systems are both efficient and adaptable, enhancing your space while promoting sustainability.

What key factors do you consider when designing a bespoke intelligent lighting control solution for a high-end residential project?

We intelligently manage multiple circuits of

both decorative and architectural lighting to create inviting and comfortable living spaces. These carefully balanced scenes can be easily recreated at the touch of a button, reducing wall clutter. The automated lighting systems empower users to set the mood while simultaneously saving energy, thereby lowering their carbon footprint. By utilizing smart technology and intelligent programming, you can achieve the perfect ambiance for any occasion, all while contributing to sustainability. We place a strong emphasis on sustainability, not only



in our lighting solutions but also through initiatives like Sustainability Week programs for our internal team.

What challenges do you encounter when integrating smart lighting solutions into listed buildings and heritage structures while maintaining their historical integrity? Which brands do you recommend, and can you provide details for our professional readers?

Lighting design for a listed building requires a delicate balance between preserving

historical integrity and enhancing usability while incorporating smart lighting solutions. Our team prioritizes historical sensitivity by collaborating closely with heritage authorities, embracing creative solutions to achieve a design that honours the building's past while offering modern functionality and aesthetics.

To ensure our approach aligns with the building's historical significance, we assess which elements will be retained or protected from development. We then coordinate with the project team, heritage consultants, and the client to create a lighting scheme that adheres to regulations and guidelines safeguarding the heritage status while also meeting the client's needs for modern lifestyle flexibility within the property.

What best practices do you follow when incorporating smart controls that enhance the aesthetic and overall ambiance of a home theater?

The variety of lighting layers in this room truly enhances the sense of space. All circuits are controlled via a pre-set scene, allowing for a versatile environment suitable for both watching movies and hosting parties. The lighting in the cinema room is designed to soften the atmosphere and is equipped with the best possible automation solutions.

Incorporating a coffer lit with the fibre optics can significantly enhance a home theatre, as it avoids puncturing any acoustic ceilings, thereby minimizing noise and vibrations. Illuminating the coffer creates a warm, shadow-free light, eliminating unwanted reflections or hot spots on the screen. To foster intimacy in a larger room, consider integrating fibre optics and automation controls, adding a dramatic flair to the space.

What effective strategies can be employed to create customizable lighting experiences in bars and restaurants? Could you share a case study and elaborate on the brands you selected and the advantages they offer?

Our lighting design team customizes each scheme to match the restaurant's style,



whether it's for a leisurely tasting menu or a fast-paced service, ensuring that key focal points—such as artwork and architectural features—are highlighted. We prioritize flexibility in the lighting design to seamlessly transition across different service times, incorporating excellent dimming control that remains unnoticed by guests.

We create distinct scenes for breakfast, lunch, drinks, and dinner, allowing for smooth adjustments that maintain intimacy without drawing attention. To ensure maximum visual comfort, all specified fixtures are chosen for their exceptional glare control. We also focus on creating continuity between transitional spaces, such as from the dining area to the washroom and back of house.

Our design approach divides the restaurant into various zones based on seating arrangements, the bar area, and special features. Each zone may require tailored lighting treatments to enhance different customer experiences. Task lighting is carefully considered to provide adequate illumination for reading menus, ensuring guests can enjoy their meals comfortably.

Restaurant lighting design plays a critical role in establishing the desired ambience, enhancing the dining experience, and complementing

the overall concept of the restaurant. It should create an instant atmosphere that feels effortless, like a magical illusion, allowing guests to focus on their experience without being aware of the lighting itself.

Which brands of smart lighting products do you prefer to work with, and what makes them stand out?

John Cullen Lighting is an independent brand that typically utilizes smart drivers or automation systems such as **Lutron** or **Rako** when designing optimal solutions for our clients. Additionally, we're excited to introduce a new product that combines light and sound. In collaboration with the brand Zuma, we have developed a unique, fully recessed compact speaker that delivers immersive audio and lighting

Can you share some of your most notable projects, where you successfully implemented smart lighting controls?

99 percent of our projects incorporate smart lighting controls, reflecting our commitment to current trends. With over 250 projects completed in the region, our controls can be seen in luxury villas in exclusive neighbourhoods throughout key cities in the Middle East.

In addition, they also grace numerous restaurants, showcasing the company's versatility and commitment to delivering exceptional results.

In your experience, what common misconceptions do clients have about smart lighting controls, and how do you address them?

Our clients often express concerns about their unfamiliarity with the technology and its user-friendliness. They also perceive smart lighting as expensive, not realizing that it's a one-time investment that ultimately offers unparalleled convenience. Additionally, many think smart lighting only provides basic functions like on/off and dimming, unaware of its extensive features, including scene setting, scheduling, and integration with other smart home devices. We hope to change these misconceptions and encourage greater adoption of lighting control systems

Can you discuss the importance of scalability in your lighting control solutions? How do you adapt these systems for different project sizes?

John Cullen is excited to announce the launch of our new residential lighting controls service. Traditionally, lighting design, fixtures, and controls are managed by separate companies, which can lead to complications along the way. To simplify the process, we now offer a comprehensive end-to-end lighting solution all under one roof.

Our new residential lighting controls package includes tailored project solutions and inhouse technical support, providing a scalable and managed approach that brings peace of mind. Whether you're lighting a single room or an entire house, we can create a customized solution encompassing lighting design, products, control system design, and control products, ensuring you enjoy trouble-free, flicker-free lighting.

From retrofits and upgrades to entirely new systems, you can trust us to deliver the best bespoke solution using the latest digital technologythat interfaces seamlessly with your smartphone and tablet. Whether you need a simple lighting control solution for a single room or a sophisticated networked system for multi-room applications, our comprehensive offerings cover it all. Our systems utilize open protocols for easy integration with your AV setup if desired

What role does sustainability play in your lighting designs, especially concerning energy efficiency and carbon footprint reduction?

It's in our DNA to continuously enhance the





functionality, sustainability, and aesthetics of our products, which we reflect in our design practices. We are deeply aware of our environmental responsibilities and the impact of manufacturing on our planet. To this end, we've introduced a new sustainable clip-fit assembly mechanism that allows for a truly modular design, eliminating the need for adhesives. This innovation significantly enhances our ability to repair, reuse, and recycle our products.

Beyond simply switching to more energyefficient light sources, we must also consider lighting layouts, fixture selection, and installation controls. Our goal is to minimize or entirely prevent the impact of lighting on wildlife by employing discreet, non-invasive solutions.

Moreover, effective lighting controls can greatly enhance the energy efficiency and environmental footprint of any installation. At a minimum, all lighting should be linked to a photocell that detects natural light levels, automatically turning off the lights when adequate daylight is available, ensuring that they're not in use during the day.

What future trends do you anticipate in the smart lighting industry, and how is John Cullen Lighting preparing to meet these changes?

As mentioned earlier, we have begun offering a comprehensive end-to-end solution, from design to supply, and are now collaborating with leading lighting control brands to provide the best solutions for our clients. Looking ahead, we are committed to developing sustainable products, including enhancing our existing lines, such as the Polespring series, to make them more eco-friendly.

Our approach also emphasizes human-centric lighting, ensuring our designs support wellbeing and productivity. During Sustainable Week, our team engages in various programs and activities to promote sustainability. Additionally, we are making strides toward standardization and interoperability among smart lighting products, allowing consumers to easily mix and match devices from different manufacturers. We are also exploring partnerships with other smart control manufacturers to advance wireless control systems.



Smart Technology Shaping Modern Workplace Design

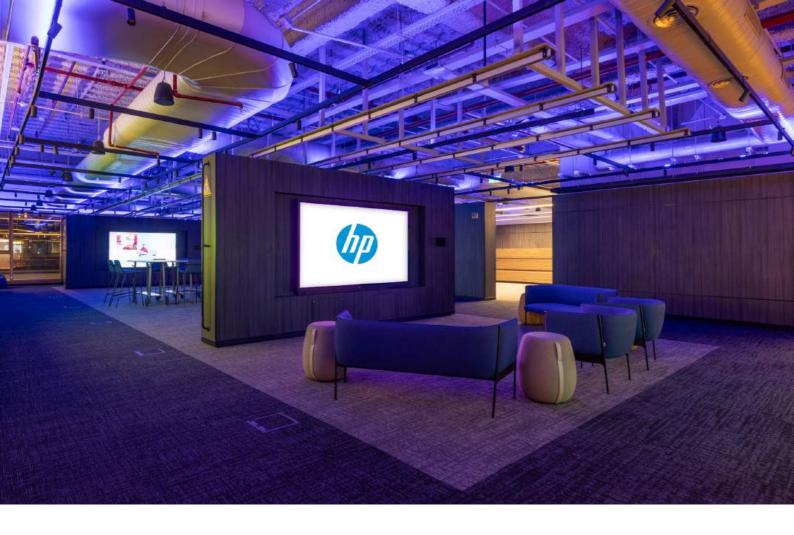
Unispace has designed a smart office for HP Corporate in Gurgaon that integrates automation, smart lighting, and IoT solutions, resulting in a flexible, futuristic workspace that enhances collaboration, productivity, and energy efficiency.

Modern workspaces are becoming more sophisticated as younger generations want more flexible and mobile working environments. And when it comes to IT offices employees prefer a Smart office that is integrated with automation and smart technology. And gradually smart offices are becoming the norm in this segment. One such smart office designed by Unispace, a global workplace design firm specializing in designing large innovative office space, has designed a smart futuristic office for HP Corporate in DLF Downtown, Gurgaon, which is meticulously designed to enhance collaboration and productivity.

Spread over a large space of 38,000 sq ft on a single level, the HP Corporation's smart office

has used advanced automation systems to improve user experience, energy management, and operational efficiency by incorporating automation and smart technology solutions for conferencing, security, HVAC (heating, ventilation, and air conditioning), and Smart lighting.

The design team prioritized creating contemporary, flexible workspaces that adapt to the evolving needs of employees. They also aimed to reduce energy consumption while ensuring adequate lighting. To achieve this, a customized smart lighting system was implemented to automatically adjust based on occupancy and natural light levels. Additionally, intelligent HVAC systems were integrated to continuously monitor the indoor



climate, optimizing temperature and airflow to maintain a comfortable environment while conserving energy.

Neha Sethi, Principal of Design at Unispace, elaborates on the design concept and the integration of automation, stating, adopted a user-centered design approach, prioritizing automation, seamless connectivity, and energy efficiency. This methodology ensures that our designs enhance user experience while meeting practical needs. We ensured compatibility among various systems, creating an interconnected environment that facilitates effective communication among all components when integrating IoT devices. Additionally, we addressed data security concerns to protect sensitive information within the automated framework. This involved implementing robust security measures while maintaining the functionality and flexibility essential for modern work environments."

Planning and Integration of Smart Automation

Neha explains, "The careful planning, design, and integration of smart automation systems for this office demanded a hands-on approach to managing the installation of various technologies, including audio-visual systems, HVAC, advanced lighting controls, and security measures. My primary goal was to ensure that these systems integrated seamlessly to enhance user experience and office operations. I aimed to create a cohesive workplace that not only addresses current needs but also anticipates future requirements, fostering a dynamic and collaborative environment for every employee."

The team selected **Lutron** and **Philips Hue** lighting systems for their energy efficiency and customization options. For HVAC control, they implemented **Honeywell** thermostat systems, ensuring optimal temperature regulation throughout the office. Security was enhanced with Honeywell access control systems integrated with **Hikvision** cameras, providing robust monitoring and entry control. Additionally, **Crestron AV** systems were utilized to meet the audio-visual needs of the workspace.

Incorporating New Smart Technology

Unispace has introduced a variety of advanced smart technologies to enhance workplace

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productivity. Key among these are AI-powered lighting systems and IoT-enabled HVAC controls, which adjust energy usage based on real-time factors such as occupancy and natural light levels. This primarily benefits energy efficiency and reduces operating costs but also ensures a comfortable environment for employees.

The project integrated **Crestron** conferencing solutions to enhance collaboration in hybrid work environments. These solutions feature centralized control, allowing users to manage various technologies from a single interface easily. Additionally, the wireless presentation capabilities enable seamless connectivity for devices, making it simple for team members to share content. The team also incorporated video conferencing integration with platforms like Zoom and Microsoft Teams, ensuring smooth communication for both remote and in-person teams. This comprehensive setup fosters an inclusive atmosphere, enhancing collaboration and productivity across the board.

Lighting was a crucial and challenging aspect of the design, addressed through the

implementation of **Philips Hue** and **Lutron** lighting systems. These smart lighting solutions provide a range of features, including remote control, automated dimming, and energy optimization that adapts to natural daylight levels.

By utilizing sensors and smart algorithms, the systems can automatically adjust brightness and color temperature based on the amount of natural light available, creating a more comfortable and productive workspace. This not only reduces energy consumption but also enhances the overall atmosphere of the office, contributing to employee well-being and engagement.

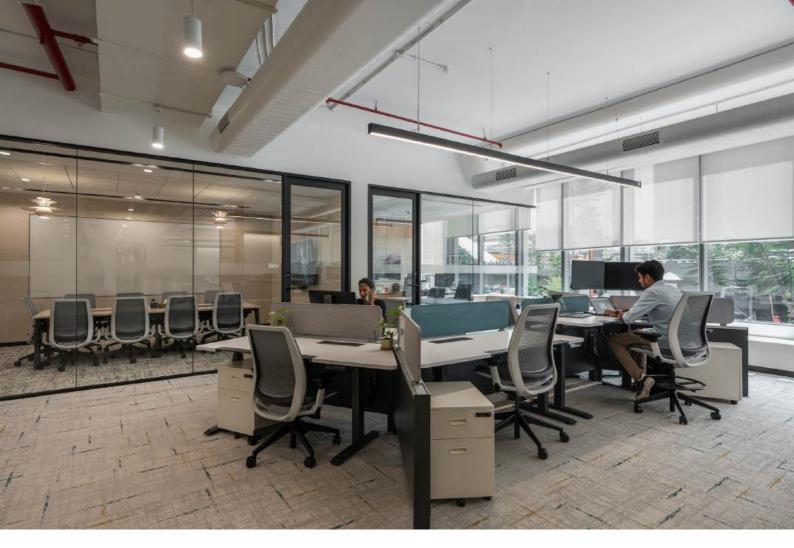
The ability to control lighting remotely also allows for greater flexibility, enabling users to tailor their environments to suit individual preferences or specific tasks. This thoughtful integration of smart lighting technology ensures that the workspace remains both functional and inviting, supporting the dynamic needs of modern work life.

Elaborating on the advantages of the integration security, Neha adds, "We used













Honeywell access control systems and Hikvision cameras to provide foolproof security. These systems guarantee effective monitoring of every area by offering broad visibility through high-definition video surveillance. We also used motion detection features, which instantly notify security staff of any unusual activity. We have round-the-clock monitoring, allowing us to react quickly to any potential threats. We also make use of cloud-based storage solutions. This guarantees that video is kept safely and allows for real-time analytics and alerts, which offer useful data

about security trends and events."

Keeping in mind the future upgradation of the systems, the team has opted for smart solutions that are adaptable and efficient, so the smart office can change to accommodate developing workspace needs and technological advancements.

Unispace has successfully designed and executed this smart office for HP, focusing on creating human-centered environments that enhance functionality and user experience.



PROJECT DETAILS:

Conferencing Solutions: Crestron, Zoom and Teams

Access Control: **Honeywell**

Security Systems: **Hikvision**

Cameras: Hikvision, CP PLUS

Digital Locks: **Hafele, Dorset**

Biometrics: **ESSL**

Touch Screens Displays: Samsung, LG

Smart Lighting and Lighting Control: Waldmann, Tridonic

Lighting Systems: Lutron and Philips Hue

Occupancy Sensors and Motion Sensors: **Density**

Monitoring Energy Efficiency: **Optex**

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Harmonising Innovation and Style in Smart Home Design

AND Studio, in partnership with OKAS Homes, has designed the Trivikramalaya Residence, by incorporating a fully integrated smart automation system that consolidates lighting, security and HVAC into a single, user-friendly platform, enhancing both functionality and aesthetic appeal.

Set against Jaipur's arid desert landscape, Trivikramalaya Residence is a 15,000-sq. ft. architectural masterpiece designed by AND Studio, where natural light is both the muse and the medium. This residence embodies a deep understanding of how sunlight can be harnessed to transform living spaces, creating an environment that is not only serene and inviting but also adaptive to the extreme climatic conditions of the region.

Trivikramalaya is also a home crafted for connection. It seamlessly blends expansive social spaces with intimate private areas, offering a versatile setting that caters to

both large gatherings and quiet moments of reflection. The residence is designed to foster interaction among family members, friends, and the natural surroundings, making it a harmonious space where life can unfold in all its dimensions. The social core of the home features informal lounges, outdoor terraces, and a vibrant bar area, all designed to facilitate effortless entertaining. These spaces allow guests to move fluidly between indoor and outdoor environments, creating a sense of openness and fluidity. The home theater adds another layer of versatility, providing a space for immersive entertainment, whether for film screenings or festive celebrations.



Integration of Home Automation and Smart Technology

"The client wanted a fully integrated smart home automation system that consolidates all services—lighting, security, media, HVAC, and more—onto a single platform. The brief emphasized user-friendliness, customizability, and a seamless experience, ensuring that technology enhances the home's functionality without compromising its aesthetic appeal," says Love Choudhary, Principal Architect at AND Studio.

To achieve this vision, the team developed a comprehensive solution that integrates multiple services into one cohesive system. For lighting control, they chose **Panasonic**, known for its reliability and ease of use. **Ekinex** keypads were selected for their sleek design and customizable features, allowing homeowners to personalize their control experience.

The audio setup is equally impressive, incorporating high-quality components from



renowned brands like Yamaha, SpeakerCraft, Marantz, and James. This combination ensures an exceptional sound experience throughout the home, perfect for both entertainment and relaxation.

Integration is seamlessly managed through OKAS HOMES, a human-centric platform that simplifies control and enhances user interaction. Additionally, **Enginius** provides

optimized Wi-Fi with heat mapping technology, effectively eliminating dead zones and ensuring that all devices remain connected and functional throughout the home.

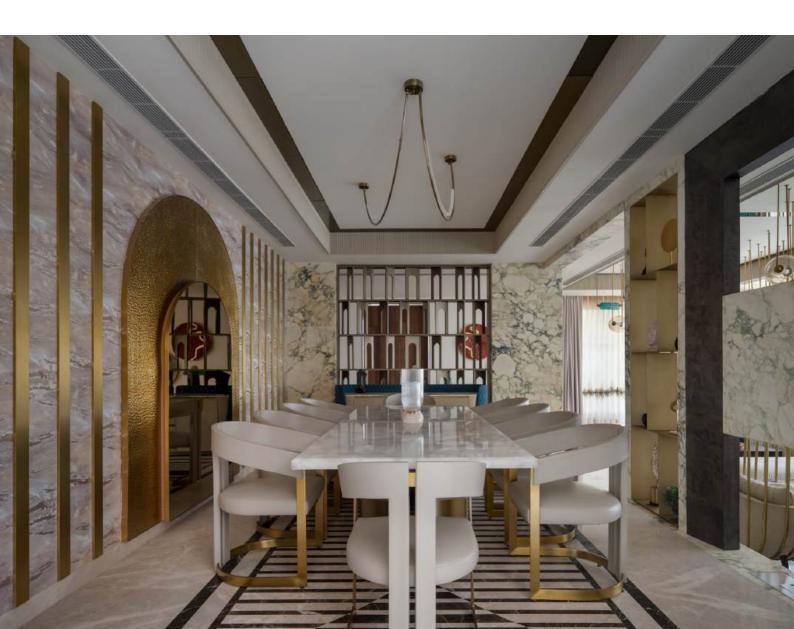
This thoughtful integration not only



streamlines the various systems but also creates a harmonious living environment where technology enhances daily life without detracting from the home's aesthetic.

"The client wanted a fully integrated smart home automation system that consolidates all services—lighting, security, media, HVAC, and more—onto a single platform. The brief was to provide user-friendliness, customizability, and a seamless experience, ensuring that technology enhances the home's functionality without compromising its aesthetic appeal." Love Choudhary, Principal Architect, AND Studio.

The team has an integrated solution that consolidates multiple services. The system includes Panasonic for lighting control, Ekinex for keypads, and a high-quality music system featuring Yamaha, SpeakerCraft, Marantz, and James. Integration is managed through OKAS, a human-centric platform, while





Enginius provides optimized Wi-Fi with heat mapping to eliminate dead zones.

Customization for Homeowners

The smart home solution was meticulously tailored to the homeowners' specific preferences, ensuring a truly unique experience. Custom in-house scenes were developed, featuring well-engraved icons on smart keypads that allow for intuitive control over multiple systems. This thoughtful design ensures that users can easily navigate their automation options, creating an accessible interface that enhances everyday functionality. The user interface prioritizes ease of use, empowering homeowners to perform DIY operations and customize their settings without the need for professional assistance. This level of personalization ensures that each homeowner can adjust their smart home

environment to fit their lifestyle, whether it's setting the perfect lighting for a movie night or creating an atmosphere for entertaining quests.

For security, the solution integrates advanced surveillance systems equipped with smart cameras. These cameras offer real-time monitoring and remote access, allowing homeowners to keep an eye on their property from anywhere. Notifications and alerts can be configured to provide peace of mind, ensuring that homeowners are informed of any unusual activity.

This comprehensive approach not only enhances the overall functionality of the home but also ensures that technology seamlessly integrates into daily life, providing comfort, security, and convenience tailored to the specific needs and preferences of the residents.







Integration of Different Technologies

systems—including networking, entertainment, smart devices, and security—are unified under the platform, facilitating seamless communication between devices. This integration guarantees that the systems operate harmoniously while offering users a simple interface to manage everything from lighting to media control," says Love Choudhary, Principal Architect at AND Studio.

The residence exemplifies the seamless integration of smart technology and thoughtful design, creating a home that prioritizes convenience, security, and comfort.



PROJECT DETAILS:

Location: Jaipur, Rajasthan

Architect/Interior Designer: AND Studio

Automation System Used: **OKAS Homes** (for complete integration)

Lighting: Panasonic

Lighting Control: Panasonic

Keypads: Ekinex

Music System: Yamaha, SpeakerCraft, Marantz and James

Wi-Fi: Enginius (optimized with heat mapping to eliminate dead zones)

Photographs: Ekansh Goel

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BenQ Unveils TK710STi 4K Smart Short Throw Laser

BenQ, a global leader in display technology, has announced the launch of its TK710STi 4K Smart Short Throw Laser Projector, engineered to provide extraordinary gaming and home entertainment experiences in compact living spaces.

The TK710STi elevates home entertainment with true 4K UHD resolution, HDR10 support, and an impressive 3,200 ANSI lumens of brightness for vivid visuals even in well-lit rooms. Incorporating BenQ's laser light source technology, the projector achieves an astonishing 600,000:1 contrast ratio and 95% Rec.709 wide colour gamut for unparalleled image depth, clarity and colour accuracy.

Designed with gamers in mind, the TK710STi boasts an input lag as low as 4.16ms, making it the ultimate choice for immersive gaming experience. This projector supports high frame rates including 4K@60Hz, 1440p@120Hz, and 1080p@240Hz, ensuring smooth gameplay across various resolutions. Dedicated HDR game modes tailored for RPG and FPS titles further elevate gaming to a new level of immersion and responsiveness on a massive 4K HDR display.

The TK710STi can project a massive 100-inch image from just 5.5 ft away, making it ideal for



smaller living spaces. This feature, combined with 4 corner correction with 3D keystone and 1.2x zoom, ensures flexible and easy installation in various room configurations.

"The TK710STi projector represents the pinnacle of projection technology from BenQ, in a sleek, space-saving package," said Mr. Rajeev Singh, Managing Director, BenQ India and South Asia. "This projector is designed to transform living room entertainment experience, offering uncompromised visuals and audio that allows movie enthusiast and gamers to have an immersive experience" He further added, "TK710 projector delivers a cinematic experience with its HDR10 support, high contrast ratio, and wide colour gamut. The built-in Android TV system with Netflix support provides seamless access to a wide range of streaming content."



Key Highlights:

- 4K UHD (3840 x 2160) resolution for incredible detail and clarity
- HDR10 and HLG support for enhanced contrast and colour range
- 3,200 ANSI lumens of high brightness for vibrant images in well-lit rooms
- 0.69-0.83 Short throw ratio for 100" image from just 1.5m away
- 600,000:1 high contrast ratio for deep blacks and brilliant whites
- 95% Rec.709 wide colour gamut for accurate colour reproduction
- Laser light source with up to 30,000-hour lifespan
- Low input lag as low as 4.16ms at 1080p 240Hz for gaming
- Dedicated HDR game modes for optimised RPG and FPS gaming visuals
- Supports 4K 60Hz, 1440p 120Hz, and 1080p 240Hz
- Android TV built-in with pre-installed Netflix and Amazon Prime
- eARC support for high-quality audio transmission
- 3D keystone correction for easy square alignment
- 1.2x zoom ratio for adjustable image sizing



Technological advancements have reshaped the landscape of architectural design. The integration of advanced design tools has unlocked new dimensions of possibility, allowing designers to push the boundaries of innovation with newfound creativity and precision. These advancements have streamlined workflows and enhanced the overall quality and refinement of architectural outcomes, enabling a level of detail that elevates the design process. Beyond design and visualisation, technology has also revolutionised how buildings are brought to life and spaces are crafted.

The emergence of building automation systems has allowed for the creation of intelligent environments that intuitively respond to the needs of their occupants, optimise energy efficiency and elevate the experience of the built environment. These forward-thinking design trends have seamlessly woven together technical and experiential aspects of architecture, fostering a future where our spaces are more integrated, sustainable, and attuned to the rhythms of contemporary life.

Shaping Architectural Design Processes and Outcomes

Computational technologies have enhanced architectural processes by introducing advanced tools that significantly improve the exploration and execution phases of design. These technologies allow architects to simulate complex scenarios, analyse data, and optimise designs in ways that were previously unimaginable. For instance, parametric design tools enable architects to manipulate design variables in real-time, exploring various possibilities and finding the most efficient and innovative solutions. This capability has expanded creative horizons and allowed architects to address complex challenges of structural integrity, environmental impact, and material efficiency with greater precision.

Furthermore, computational technologies have improved the execution of architectural designs by bridging the gap between conceptual ideas and buildable structures. Architects can use algorithms and digital modelling to create highly detailed and accurate representations of their designs,



ensuring that complex geometries are constructible. This precision reduces the risk of errors during the construction phase, saving time and resources while enhancing the overall quality of the final product. Additionally, these technologies facilitate better stakeholder collaboration, as digital models can be easily shared, reviewed, and modified, ensuring that all parties are aligned and the design is innovative and executable.

Emerging Building Automation Technologies Impacting Architectural Futures

Innovative Robotics and 3D Fabrication Technologies have fundamentally altered the landscape and pushed limitations of architectural design and construction. These technologies have redefined design complexity and precision possibilities by automating complex building processes.

These technologies are central to enhancing sustainability efforts, as they allow for the efficient use of materials and reduce waste during construction. This shift has streamlined construction processes, enabling faster

completion times without compromising quality.

Artificial Intelligence (AI) and Machine Learning (ML) are rapidly transforming architectural practice, automating routine tasks that generally consume significant time and resources. These technologies are revolutionising an architect's approach to design optimisation. AI and ML can analyse vast amounts of data to identify patterns and trends, allowing for the creation of innovative and highly efficient designs using limited resources. Moreover, these technologies offer predictive capabilities, enabling architects to anticipate future needs and challenges, thus crafting adaptable and future-proof buildings.

Building Information Modeling (BIM) is a game-changer in collaboration and project management. By providing a centralised digital platform, BIM facilitates seamless communication and cooperation between all stakeholders involved in a project, from architects and engineers to contractors and clients. This integration streamlines the design process, minimising errors and discrepancies

that could arise during construction. It also enhances decision-making by offering detailed visualisations and simulations, allowing stakeholders to foresee and address potential issues proactively. The result is a more efficient and cost-effective construction process where all elements are carefully coordinated and aligned.

Data Analytics and Sensor Technologies are at the forefront of creating adaptive and responsive architectural designs. By leveraging real-time data, these technologies enable buildings to adjust to changing environmental conditions and the needs of their occupants. For instance, sensors can monitor temperature. humidity, and occupancy levels, triggering automated adjustments in lighting, HVAC systems, and other building functions to optimise comfort and energy use. This ability to respond dynamically to real-time data enhances the resilience and sustainability of built environments, ensuring they remain functional and efficient in the face of changing conditions.

Virtual and Augmented Reality (VR/AR) is redefining how architects visualise and present their designs. These immersive technologies offer unprecedented spatial experiences, allowing clients and stakeholders

to experience a building's design in a fully interactive, three-dimensional environment before construction begins. Despite a more considerable initial financial investment, the benefits of VR/AR are clear: they provide a powerful tool for client engagement, enable a deeper understanding of design intent, and offer an invaluable means of validating and refining designs. This level of immersion enhances client satisfaction and reduces the likelihood of costly design changes during construction.

Energy Modeling and Material Analysis Tools are instrumental in advancing sustainable architecture and green building practices. These tools allow architects to simulate the energy performance of buildings, identifying areas where improvements can be made to minimise energy consumption and environmental impact. Material analysis tools help select sustainable materials, ensuring that buildings are environmentally friendly, durable and high-performing. By integrating these tools into the design process, architects can create buildings with a reduced ecological footprint and contribute positively to their surroundings.

Building Automation is rapidly becoming a cornerstone of modern architectural design,





integrating various technologies into a cohesive system that enhances a building's functionality and efficiency. Automated systems manage lighting, HVAC, security, and other building functions, adjusting them in real time based on sensor and analytic data. This automation improves energy efficiency and enhances the comfort and safety of occupants. When combined with Al. machine learning, and sensor technologies, building automation creates intelligent environments that adapt to users' needs, optimising performance and reducing operational costs. Building automation is a critical component of futuristic design, ensuring that the built environment is responsive and aligned with the evolving demands of the modern world.

Enhancing Dimensions of Our Built Environments

Human-centric design is the ultimate goal of modern architecture, where technology plays a pivotal role in enhancing the human experience. Building automation combines these technological advancements, creating a unified, intelligent infrastructure. These systems ensure the built environment operates optimally by automating essential building functions like lighting, climate control, security, and energy management.

Moreover, automation allows for the seamless integration of sustainability efforts, ensuring that energy use is minimised, waste is reduced, and resources are used efficiently. This holistic approach to design and operation means that technology is now integral to how spaces are conceived, built, and experienced.

Furthermore, technology is crucial in preserving architectural heritage, ensuring that new developments resonate with their cultural and historical context. Advanced tools like digital scanning and 3D modeling allow architects to understand and preserve the essence of spaces while integrating modern functionalities that meet contemporary needs. This balance between innovation and preservation ensures that as we move forward, we remain connected to our past, enriching the cultural fabric of our built environments.

Thus, technology is not merely reshaping the methods and outputs of the design process; it is fundamentally transforming the fabric of architectural practice and built environments. Integrating advanced technologies into a cohesive, automated system steers us towards architectural practice focused on enhancing well-being, preserving cultural identity, and promoting sustainability in a seamlessly interconnected system.



Marantz's New Horizon Wireless Speaker

Marantz, renowned for its commitment to audio excellence, has announced the launch of the Horizon Wireless Speaker, a stunning blend of cutting-edge sound engineering and elegant design. Tailored for discerning music lovers and audiophiles alike, the Horizon promises an unparalleled listening experience characterized by clarity, depth, and richness.

The Horizon Wireless Speaker embodies Marantz's legendary sound quality, known for its ability to reproduce music with remarkable texture and nuance. Whether enjoying classical symphonies or contemporary hits, listeners can expect crisp highs, rich mids, and powerful lows, all delivered with the authenticity that has defined Marantz for decades.

The Horizon speaker reimagines the iconic Marantz aesthetic, seamlessly blending traditional design elements with modern luxury. Its striking silhouette serves as a sophisticated centerpiece for any home, featuring Marantz RadianceTM 360° Seamless EcoFiber, which enhances both durability and acoustic transparency while providing a refined visual appeal.

At the core of the Horizon is the Marantz RiseTM Amplifier, a next-generation technology that amplifies audio signals with precision. Paired with Marantz GravityTM Drivers, featuring powerful neodymium magnets, the speaker ensures a distortion-free, immersive audio experience across all frequencies.

To enhance both sound and style, an optional tripod stand crafted from American walnut and robust cast iron is available. This elegantly designed stand positions the speaker at the ideal listening height, complementing the luxurious materials of the Horizon speaker. With comprehensive wireless capabilities, including Wi-Fi, Bluetooth, AirPlay 2, and HEOS® Built-in, the Horizon offers effortless streaming from popular services like Spotify and Apple Music. Its HEOS multi-room functionality allows users to connect multiple speakers or **HEOS-compatible** devices for a synchronized audio experience

Smart Home Integration

throughout the home.

The Horizon also excels in smart home compatibility, featuring support for Amazon Alexa, Google Assistant, and Apple Siri. This integration enables users to control music, volume, and other smart devices effortlessly through voice commands.

Availability in India

The Marantz Horizon Wireless Speaker will debut in India next month, available through MZ Audio Distribution. Music enthusiasts eager to experience this luxury audio innovation can inquire directly with MZ Audio Distribution to secure their



TELETASK Opens New Office and Product Experience Center in Hyderabad

TELETASK, a global leader in home automation products and solutions, has announced the opening of its new office and product experience center in the upscale Banjara Hills neighborhood. This strategic move underscores TELETASK's commitment to advancing home automation technologies and enhancing customer experiences.

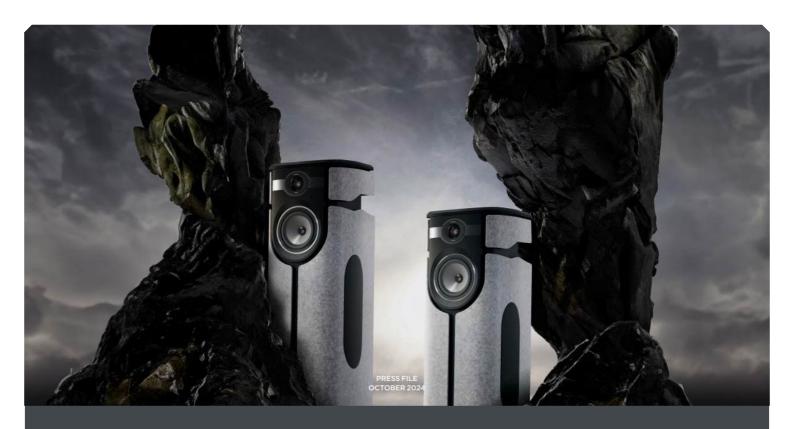
With over 40 years of innovation, TELETASK has engineered a range of robust products that provide intuitive control over various systems, including lighting, HVAC (Heating, Ventilation, and Air Conditioning), motorized curtains, and blinds, power sockets, audio systems, energy management, and access control. These solutions seamlessly integrate into both new constructions and renovations, transforming living spaces into intelligent environments.

TELETASK recognized India's growing infrastructure potential early, establishing its presence in the country in 2004. Under the guidance of Kalyanaraman, CEO TELETASK and Venkat Mahalingam, Director, TELETASK

the company has successfully completed numerous high-profile projects across various sectors.

Currently represented in 12 major Indian cities, TELETASK aims to expand its footprint to 25 cities within the next year. The new Hyderabad office will serve as a central operations hub and state-of-the-art product experience center. Key features include an operations hub for streamlined administrative functions, a product experience center for hands-on demonstrations of the latest home automation technologies, and a technical training facility to provide extensive training programs for engineers in response to growing market demands.

The establishment of this office highlights TELETASK's dedication to meeting the increasing demand for advanced home automation solutions in India. By offering comprehensive support and training for technical engineers, TELETASK ensures clients receive exceptional service and expertise.



Focal Unveils Diva Utopia: The Pinnacle of Wireless Luxury Loudspeakers

The French luxury loudspeaker brand Focal announced its first ever pair of wireless active loudspeakers. These appropriately named Diva Utopia speakers have been in development for five years and combine hi-fi sound with Focal's unique Gallic styling, alongside innovative electronics sourced from Focal's sibling audio brand Naim.

The Diva Utopia are a three-way, bass-reflex design of floorstanding loudspeaker. And despite their hefty price tag, Focal claims the new speakers are no diva as they are simple to install and easy to use. There's no need for cables to connect the speakers or for any external amplification.

With the Ultra-Wideband Technology developed in conjunction with Naim, the Diva Utopia can play music at a level exceeding CD quality and approaching high-resolution audio found in professional studios. For convenience, the Diva Utopia can be controlled using a dedicated smartphone app, the supplied remote control or even a voice assistant.

Focal's primary aim in developing the new Diva Utopia speakers was to create a userfriendly pair of wireless active speakers without compromising on audio performance. The company claims it has succeeded in meeting that challenge and then some.

The Diva Utopia offers Bluetooth, AirPlay 2, Google Cast and UPnP protocols for streaming music and access to a wide range of streaming platforms including Spotify Connect, TIDAL, Qobuz and QQ Music from China. The speakers can also easily connect to a television, providing a new way to enjoy movies and video games. Alternatively, the Diva Utopia can work with other audio sources, such as a vinyl turntable or a CD player.

The loudspeakers integrate into the Focal and Naim ecosystem, enabling users to set up multiroom audio around the home that can be controlled with a few clicks using the dedicated smartphone app. The speakers can also be paired with home automation systems for integration into smart homes.

As you'd expect from Focal, the design of the Dvia Utopia is full of French flair and panache. The speakers' drivers have W-shaped cones, a patented innovation that Focal claims delivers precise sound. The company goes on to say

that Diva Utopia's beryllium M-profile tweeters can deliver high-frequency reproduction with remarkable accuracy. The loudspeaker also contains Naim electronics, including 400W of Class AB powered amplification and a new streaming architecture handling up to 348kHz / 32-bit audio.

Focal's aim in designing the Diva Utopia was to create a musically and visually stunning loudspeaker where nothing has been left to chance. The loudspeaker has a unique and refined design with the bass drivers placed subtly on the sides of the cabinets. The floating side panels sit behind a signature divide that has a backlit logo for an ethereal, and sophisticated look.

Focal Utopia design cues can be found at the heart of the speakers, such as the red and black double grille on the tweeter and the brushed aluminum ribbon encircling it, forming a symbolic Yin & Yang motif that evokes the harmony between expertise and technology. The distinct design even extends to the felt material chosen for the side panels, a material with minimal environmental impact.

Pricing & Availability: The Focal Diva Utopia wireless speakers are shipping now and exclusively available via qualified stores in Focal Powered by Naim Network for \$39,999 / £29,999 per pair.

TECH SPECS:

Type: 3-way bass-reflex active.

Floorstanding bass: 4 x W 6.5" (16.5cm) push-push configuration.

Midrange-bass: W 6.5" (16.5cm) with TMD surround and NIC motor.

Tweeter: IAL2 11/16" (27mm) pure beryllium M-shaped inverted dome

Bandwidth (+/-3dB): 27Hz – 40kHz.

Low-frequency cut-off (-6dB): 24Hz.

Max volume (per pair): 116dB SPL (@ 1m).

Amplification power per loudspeaker: LF:

250W Class AB / MF: 75W Class AB / HF: 75W

Class AB.

Power supply: 110-120V/220-240V ~50/60Hz.

Power consumption: 280W.

Network standby mode: <2W.

No-network standby mode: <0.5W.

Inputs on primary speaker: HDMI eARC, CEC / TOSLINK Optical / RCA / Type A USB 2.0 / RJ45 Ethernet / RJ45 Speaker Link

Inputs on secondary loudspeaker: RJ45 Speaker Link.

Internet radio format: Streaming containers: HLS, DASH, OGG. Codecs: MP3, AAC, Vorbis, FLAC. Icecast, Shoutcast, XPeri Extended Metadata support.

Audio formats: WAV, FLAC and AIFF – up to 24bits/384kHz, ALAC (Apple Lossless Audio Codec) – up to 24bits/384kHz, MP3 – up to 48kHz/ 320kbits (16bits), AAC – up to 48kHz/320kbits (16bits), OGG and AAC – up to 48kHz (16bits), DSD64 and DSD128

Bluetooth codecs: aptX Adaptive, SBC, AAC. Multiroom Sync with up to 32 Focal & Naim streaming devices.

Control: Focal & Naim app, remote control, voice assistants.

Wireless streaming: AirPlay 2, Google Cast, UPnP, Bluetooth 5.3, Spotify via Spotify Connect, TIDAL via TIDAL Connect, QQ Music via QPlay.

Music streaming services via the Focal & Naim app: TIDAL, Qobuz, QPlay, Internet radio and podcasts.

Network: Ethernet (1000/100/10Mbps), Wi-Fi (Wi-Fi 6).

Wireless connection: UWB 96kHz/24-bit.

Connection with Hi-Res Link: 192kHz/24-bit.

Focal & Naim control app: iOS and Android.

Remote control: Zigbee.

Dimensions (HxLxD): 121x42x56cm.

Weight: 64kg.

Cambridge Audio Launches EXA100 Stereo Integrated Amplifier

Cambridge Audio has launched the EX Series, comprised of the EXA100 stereo integrated amplifier and EXN100 music streamer. The EXA100 stereo integrated amplifier is the power behind the new EX Series.

Over three years in the making, and with almost 60 years of audio expertise behind it, EX Series is the successor to Cambridge's Azur 851 range – and EXA100 is its beating heart.

Drawing on trickledown amplifier technology from the flagship Edge M monoblock power amp, EXA100 offers a wide soundstage from 100W per channel of Class AB amplification.

A huge array of connectivity options, a built-in DAC, HDMI eARC and a dedicated Power Amp Mode make it functionally as accomplished as it sounds.

"We believe this is, pound for pound, the finest amplifier we've ever built. It exemplifies the new EX Series, overdelivering on performance and versatility in this category," says James Johnson-Flint, Owner and CEO of Cambridge Audio. "EXA100 is a serious step up for anyone upgrading from our CX amps, and the perfect stepping stone to the Edge range."

The EXA100 houses an advanced toroidal transformer, heavily shielded, super-quiet and flanked by heavy-duty heat sinks. The amplifier modules are based on those in the Edge M power amp, and EXA100 even uses the same power transistors as its monobloc stablemate, delivering high-end quality at a fraction of the cost.

The approach to internal design can also be seen in everything from the four-layer PCBs to the proprietary CAP protection system, which uses four different methods to detect potential issues, such as power and temperature overloads, and take preventive action.

EXA100's connectivity is comprehensive, befitting a modern integrated amplifier.

On the analogue side, inputs comprise a set of Balanced XLRs and three sets of RCA stereo sockets. For output, you get a front-mounted 6.3mm headphone socket, a stereo



pre-out and a subwoofer pre-out for adding extra bass options to a set-up. There are two sets of speaker outputs, allowing users to power music in two different rooms or add a secondary outdoor speaker pair.

EXA100 is also a digital audio powerhouse, thanks to an ESS Sabre ES9018K2M DAC (digital-to-analogue converter) and an array of dedicated digital connections. HDMI eARC enables easy connection to a TV, with the benefit of volume control via the TV's remote. There are also inputs for USB Audio, digital coaxial and two TOSLINK optical sockets.

Bluetooth aptX HD is also available for added convenience, or to stream vinyl wirelessly from a Cambridge Audio Alva turntable.

Switch the EXA100 to Power Amp Mode and it transforms literally into that – a stereo power amp – so that it can be paired with the preamp of choice or used as part of a multi-channel home cinema system.

This means it can optionally be used in pre/power combination with the new EXN100 music streamer with its digital-only Preamp Mode. EXN100 provides the streaming brains and volume control, all controllable via the StreamMagic app, while EXA100 delivers power and detail.

The EXA100 features a milled aluminium front panel and a tactile knurled volume knob. Visually it again partners perfectly with EXN100, with matching Lunar Grey finishes and a full-height centre panel that boldly cuts through the fascia.

EX Series introduces a new remote control, supplied with EXA100, that also provides command over EXN100.

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Artcoustic Introduces the Sub Ci4-5: A Discreet Audio Marvel!

Artcoustic is thrilled to introduce the Sub Ci4-5, a discreet audio powerhouse designed to deliver powerful bass without sacrificing valuable space. This innovative subwoofer features four 5 1/4" long-throw woofers paired with Artcoustic's proprietary sealed cabinet technology, ensuring astonishing bass response that effortlessly handles even the most demanding low-frequency signals with exceptional accuracy and strength.

The Sub Ci4-5 is ideal for installations where aesthetics and space are paramount. Its compact design allows for versatile placement options, including under sofas or furniture,

behind or mounted on construction beams, and low along the floor line, making it a perfect fit for any environment.

More than just a subwoofer, the Sub Ci4-5 enhances your audio experience with its impressive four-driver configuration and highpower handling capabilities. It minimizes distortion while providing precise low-frequency reproduction, ensuring a rich sound that seamlessly integrates into your space. Experience the power of discreet audio with the Sub Ci4-5, where exceptional performance meets subtle design.

TECH SPECIFICATION:

Operating Range: 40 Hz (-3 dB) to 400 Hz

Sensitivity: 90 dB Maximum Power Handling 2 hours of 6 dB crest factor pink noise, 200 Watt RMS (AES Standard)

Impedance: 8 ohms nominal

Average Peak SPL: 110 dB

Weight: 10 kg

Dimensions: H: 143 W: 1000 D: 117 mm Cabinet

Indoor: Black, White, Optional RAL/NCS

Outdoor: IP62 standard colour NCS S 2500-N. Optional IP62 RAL/NCS.

Casambi Launches the Salvador Series 2000

Casambi has launched the Salvador Series 2000, the next evolution in their lighting control solutions. Building on the success of the Salvador Series 1000, this new series brings enhanced functionality and flexibility to wired DALI installations.

It's designed to seamlessly integrate wired DALI drivers into the Casambi system, allowing for a unified control experience across both wired and wireless lighting devices. When integrated into a Casambi network, DALI luminaires appear as virtual luminaires, enabling comprehensive control through the Casambi app.

Key Features of the Salvador Series 2000

Easy Installation - Integrated power supply, RTC with backup, cable strain relief.

Broad Compatibility - Supports DALI D4i, DT6, and DT8 standards.

Easy Commissioning - No DALI-USB, no USB cables, no PC-based software.

Unified Control - Manage wired and wireless devices together in the Casambi app.



Cloud Connectivity for DALI - This is the cheapest, easiest way to connect wired DALI solutions to the cloud.

Models Available:

SAL-2016: Handles up to 16 DALI driver addresses. SAL-2032: Manages up to 32 DALI driver addresses. SAL-2064: Supports up to 64 DALI driver addresses.

Flexson Unveils New Pro Range of Accessories for Sonos Speakers

Flexson recently announced the launch of its new 2024 Pro Range at CEDIA Expo. This collection of high-performance mounting and installation solutions is designed to meet the needs of professional installers and discerning audiophiles alike

The Flexson Pro Range includes a variety of products for Sonos speakers, such as:

Ceiling Mounts: These mounts allow users to install their Sonos speakers discreetly on the ceiling, providing optimal sound coverage for any room. The Pro Range offers both single and quad ceiling mount options for the Sonos Era 100. There are also ceiling mount options for the Era 300.

Security Fixing Kits: These kits deter tampering and theft, making them ideal for Sonos Era 100 speakers installed in public spaces or high-traffic areas



Rack Mounts: These mounts allow users to install their Sonos Amp and Port devices in a standard 19-inch rack.

Flexson's Pro Range products are easy to install and provide a secure and stylish way to mount Sonos speakers in any environment, be it a home or commercial installation.

The Flexson Pro Range is available now from authorized Flexson retailers worldwide.

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