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The word “green” itself triggers a concatenation of words in our heads like plants, organic, planet or say sustainability. And this further induces a sense of responsibility in us towards our immediate environs. With the shooting up of skyscrapers every now and then, the cities are emerging as packed encampments for job aspirants and more immigrants. These concrete structures add 40% of the gas emissions to the greenhouse effect as per a UN report of 2019; other perilous issues are climate change, global warming, increase in population, air pollution etc. These issues need to be addressed: what role can architects play to mitigate the problems and how does green architecture help?

Survival Kit for 21st Century

As a reverent act towards nature and the environment, architects are under the obligation to design buildings which are not just aesthetically and functionally sound, but which also summit the standards of eco-friendly outcome, says Khozema Chitalwala, Principal Architect & Designer, Designers Group.
Sustainability is not just a mandatory aspect but also a duty as a designer to paint the skyline with the foundations of eco-friendly footings. We believe that our baby steps with each and every deliverable will definitely do its bit in contributing towards conserving Nature.

Khozema Chitalwala

How about we dig down the lane and add solutions to these 40% of the gas emitters. The definition of green architecture goes beyond the addition of solar panels or green facade, it is designing and construction of a space/building with the rudiments which are eco-friendly and sustainable. A building which "generates all of its own energy with renewable non-toxic resources, captures and treats all of its water, and operates efficiently and for maximum beauty" is a definition by The Cascadia Region Green Building Council.

Pondering over all these explanations and different notions of ‘green’ architecture, we can enumerate certain characteristics which fall under the umbrella of the above. Commencing from the basics, these can be classified under Passive or Active. Passive measures include the design of windows, natural lighting, orientation, insulation etc. A good and sustainable design can be achieved when these measures are taken into consideration during the design charrette. The measures that are technical or the mechanical systems used to achieve the sustainable aspect of a building, like rainwater harvesting systems and solar panels, fall under this column.

At Designers Group, we try to introduce sustainable ideas in a project right from scratch. Studying and scrutinizing our hospitality deliverables, especially hotels like the Gift International Club, we incline to conserve maximum energy - whether it is electrical or human - to bring out the sustainability aspect of the built. The practice of recycle and reuse are followed in all our major design schemes. A mandatory introduction of water treating systems is followed in all our hotels. Conversion of garbage to manure or OT systems further act as green features. We are extremely cautious about the lighting aspect of each project, particularly spaces like guest rooms. Each and every space is pre-designed and mock-ups assist us in the perfect lighting system, which is neither under or over engineered.
The impact of Covid-19 has left deep scars that will heal slowly but leave a permanent mark. We have learnt a lot during these times...we have learnt the value of conserving resources, to live in isolation while remaining connected virtually, and have learnt the value of sharing, caring and empathy. The power and need to build a resilient, sustainable, equitable society that assures health and well-being of all is more profound than ever before.

Green and sustainable communities and buildings that have a strong foundation of these core concepts have been able to manage the situation better. There is thus a need to be cognizant of the challenges that we have encountered and make revisions and adjustments to our planning and design procedures, concepts, and implementation strategies. As we are re-starting our day to day work, our workplaces and homes need to adapt to the new normal and we can also reimagine our future workplaces and homes to be more flexible and adaptive to similar challenging needs.

Our cities and communities have faced immense difficulties in providing equitable access to critical resources such as healthcare, food, shelter, and transportation, in recent times. We have realized the benefits of compact, human-scaled, walkable, and universally accessible neighborhoods and developments that connect to transportation means or offer diverse uses and services. The pandemic preparedness of Indian cities has proven that cities and communities that had proactive planning and preparedness and healthcare infrastructure for all, were able to contain the spread more effectively.

Social distancing is a new norm that requires creation of spaces that can allow for implementation of distancing without creating chaos and confusion. This is applicable in public spaces or semi-private to private spaces. Green and accessible open spaces have been found to positively impact physical, mental, and psychological health and the well-being of people. Provision of green spaces that are accessible and within walkable distance from buildings, encourage walking, enhance public health, and improve quality of life. Residential and commercial properties also need to make provisions for enabling social distancing and contactless services.

Homes have to be adaptable to the changing needs to facilitate isolation of a sick member, enable work from home, and provide safety and security for the family. Green design features such as adequate ventilation, natural daylight, and flexible spaces are very effective in enabling physical comfort and better mental health.

Spaces for common uses such as lift lobbies and public areas, commercial retail, and offices, have the challenge of accommodating people commuting from diverse locations, providing for safe, sanitised and healthy environment with social distancing and provision of disinfection facilities and other safety measures.

All workspaces should deploy sustainable requirements in building operations and human behaviour, as their spaces get re-occupied. Providing for good indoor air quality and a space conditioning system that contains spread of the virus is also a prime necessity. Organisations such the ASHRAE (American Society for Heating, Refrigeration and Air Conditioning) and its Indian counterpart ISHRAE have released several guidelines on temperature and humidity setpoints in re-occupied spaces, air distribution methods, and air filtration, including disinfection of air using UV rays.

Another area of concern is water. Since offices and commercial spaces went into a sudden lockdown so there is a high probability that unused water in these facilities has remained stagnant and exposed to contamination over the past months. There is thus a need to re-commission water systems and ensure water quality.

We are reopening offices and getting back to the normal way of life. But the fear of the virus looms large, so is the fear of any such pandemic hitting us in the future. We must take cognizance of the lessons learnt and prepare for a healthier and safer future. There is thus a need to assess the needs of our cities and communities and provide for these services equitably, particularly to the underprivileged and poor.
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Vice President’s Address to IIA

Promote renewable energy sources in upcoming building projects and adopt Green and Sustainable Architecture: Vice President of India, Shri M Venkaiah Naidu, in his address at the National Convention of the Indian Institute of Architects

The Vice President of India, Shri M Venkaiah Naidu called upon the architects of the country to adopt and promote Green Architecture. He said that the use of renewable energy sources such as solar energy should be promoted in the upcoming building projects and emphasized the need to strike the right balance between aesthetics and sustainability in any structure. He was virtually addressing the inaugural ceremony of the National Convention of the Indian Institute of Architects: IIA NATCON 2020 – TRANSCEND.

Recalling the evolution of Indian Architecture right from the Indus Valley Civilization to the Konark Sun Temple to modern times, Shri Naidu said that our country is home to many monuments which were created by artisans using local materials and techniques. He described the architecture as one of the most enduring achievements of any civilization.

Calling for the creation of a self-reliant, resilient and inclusive architecture, he asked the professionals to draw inspiration from India’s diverse architecture and take the legacy forward by adopting the designs and concepts that are environment-friendly and best suited to the needs of the people.

He lauded the Government’s flagship programs such as Smart Cities and Housing for All and highlighted the need to promote culture and heritage of the respective areas in these projects. He also called for the involvement of local artists and artisans in these projects. “This will not only keep the essence of the culture of the place alive but will also encourage and give employment to the immensely talented craftsmen who are struggling to keep our culture alive through their work,” he said.

The Vice President further advised the architects to seek the views and suggestions of the locals while designing a new project to ensure that such projects are in sync with the requirements of the local people. He also urged architects to give preference to comfort and blend comfort with style and fashion, while designing any structure. “The aim should be to build structures that not only provide shelter and security but also provide comfort and safety,” he emphasized.

He said that he had advised municipal authorities across the nation to make use of solar roof panels and rainwater harvesting and make them mandatory for new buildings. Referring to urban flooding and water logging during heavy rainfall, he called for finding ways to ensure effective drainage systems.

Drawing attention to the increasing population and consequent rise in housing needs, the Vice President said that we must ensure that habitats are not destroyed to make space for new infrastructure. Expressing concern, he said that the construction sector was severely affected due to the massive decline in onsite works and called upon the architects and designers to explore new ideas and create a dialogue across design boundaries to help find solutions that can address the pandemic and its aftermath.
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Protecting Biodiversity
A Business Imperative

The current crisis has given us a unique opportunity to pause, reflect and rethink on how to do a balancing act with nature to ensure a harmonious relationship. From the climate crisis to the biodiversity crisis, to preventing the possible future pandemics, the solution to overcome any natural calamity lies in how we transform our relationship with nature.

By Parag Kulkarni, Managing Director, A. O. Smith India

The alarming rate of deforestation and land degradation in recent years has highlighted on the urgent need for action to safeguard the rich biodiversity. The ongoing Covid-19 pandemic has heightened this reality by underlining the importance of fresh and non-contaminated air, and has also thrown into sharp focus the link between people’s health and that of the ecosystem, emphasizing the importance of conserving nature. Hence, all the stakeholders must come together to save and protect our environment from different environmental challenges that the world is facing today.

Protecting biodiversity has also become a business imperative for companies. There are plenty of firms which thrive economically while working for a better world and the results are there to be seen for all. For example, the solar and wind energy industry is among the fastest growing sector and the renewable energy market is also projected to reach 2.15 trillion U.S. dollars worldwide in 2025. Companies need to be environmentally active also because customers and investors expect them to be committed and deliver results. Each business can contribute in its own way in this movement for a sustainable bio-diversity. Here are a few measures that companies can take to ensure an environmentally healthy world:

Production of innovative green products: Sustainability and environmental issues are rapidly emerging as one of the most important topics for strategic business, management, manufacturing, and product development decisions. Hence, it is critical for companies to produce green products that would keep the environment safe and contribute to a green economy. In order to achieve sustainable development, companies must redesign products, upgrade and adapt new technologies.

Reducing carbon footprint: Energy efficiency is another goal that can be achieved to reduce footprint. The goal should be to move towards zero waste. Companies can initiate commitments that will result in large-scale transformations or fulfilling smaller goals. There are many ways in which you can educate employees to make positive changes or be involved in eco-friendly behaviours or habits that will save or conserve energy.

Focus on re-cycling practices: There are many materials which can be recycled or re-used, and hence will reduce the waste generated in various fields. For example, around 50 million tons of e-waste is generated every year, but only 20 percent...
of this is recycled, according to a UN study, and is on track to reach 120 million tons per year by 2050 if current trends continue, according to a report. The e-waste produced annually is worth over $62.5 billion, more than the GDP of most countries. If the total mass of these materials is re-used, a great environmental hazard will be prevented.

Moving towards a paperless environment: Companies can move to a paperless environment as much as possible. The push towards digitization is sparking more interest than ever. Although the concept is not new, the technologies we have at our fingertips are vastly more powerful than they were only a few years ago. Companies can go for green technologies that would use less paper and contribute to a healthy ecology.

Rainwater harvesting: It is a concept that lets us use natural rainwater productively in multiple ways. The smallest and the largest of buildings must have in place a rainwater harvesting system that can provide a steady source of water. This water should be filtered and re-filtered to make it consumption-friendly. The harvested rainwater can be used in restrooms and for watering the garden and can be purified using simple techniques to make it safe enough to drink.

Landscaping: This initiative eliminates carbon dioxide from the air and replaces it with clean oxygen. Cleaner air means that employees will enjoy the green space during breaks, breathe cleaner air, and will return to work refreshed. This increases productivity and reduces sick days and can improve the overall well-being of employees as landscaping is vital for a healthy body and mind.

In conclusion, it can be said that the power to safeguard biodiversity is with us, and we need to act collectively. Individuals and corporations can make small changes in daily habits without dramatically affecting lifestyles. The scale of what your company can achieve by going green can never be underestimated. Build knowledge about how your company can make a difference on issues that are impacting the planet. Collaboration is a great instrument in crafting and executing green visions that would provide the human race an exalted and exhilarating planet to live on. The safe and healthy future that we are all striving for is NOW.
In Imperfection Lies Beauty

Ellementry, a lifestyle brand launched in 2018, has already found many patrons for its handcrafted products that are rooted in indigenous culture and tradition. According to founder Ayush Baid, it is India’s cultural ethos that drives the brand’s design sensibilities, which brings forth the craftsmanship and skill of the rural Indian artisans.

What is the USP of the Ellementry brand?
Ellementry epitomizes simple luxury through handcrafted lifestyle products. We draw inspiration from nature, season, colour, mood, culture, and life itself, to conceive products that are handcrafted with utmost attention to detail and are adapted to modern sensibilities. Breathing life into the mundane with exquisite design elements that seamlessly marry functionality is the essence of the brand.

Our product line-up — which combines utility and beauty — includes tableware, furniture, and lighting. What makes them even more special is the fact that all of them are handmade; each imperfectly perfect, and unique. As Ellementry employs rural artisans for their products, every product showcases traditional handcrafted techniques with modern sensibilities, and using materials that are natural, sustainable, and earthy.

How was the idea of Ellementry conceived?

While studying in the University College London (UCL), I got an insight into how the e-commerce world functions. One summer, while analyzing my father’s business data, I figured that the same products would be lapped up happily in India. After a thorough analysis of the market and the required groundwork, I devised a plan for e-retailing the products in India. This led to the birth of Ellementry. We have entered our second year of operations, and have already opened three stores across India, and the fourth will come up in Hyderabad.

What makes Ellementry an eco-conscious brand?
Our products are about living spaces that are in harmony with nature. What lies at the heart of every single product created by us are the materials — they are crafted from natural organic materials. The processes also ensure no harm to the environment. Moreover, every material used in the products is food safe.

We make terracotta products that evoke ancient traditions. Be it stoneware or earthenware, all are sourced from the earth, and when their use is over, they return to the earth. We even recycle newspaper in our papier-mâché unit to make beautiful handcrafted products.

We have created an eco-mix by combining waste generated from factories, like marble dust, wooden dust and old textiles with recycled newspapers and other sustainable materials. Our surplus
Craft

All our products are handmade in India by 4,000 artisans employed by us fulltime. Our in-house terracotta, papier-mâché and ceramic units are not just providing means of livelihood to local Indian artists, but are also ensuring that the artisans pass on the art forms to the younger generations, thereby reviving the dying arts of India.

Ayush Baid

production is utilized by us for our meals and guests. For our display, photo shoots and set-ups, we use all the waste and recycled wood that gets collected in the factories, giving them a new life. For example, we made Christmas trees made of recycled wood and displayed them in all our stores. For our furniture and kitchenware products, we mostly use mango wood, which is highly sustainable due to its cultivation as a fruit tree. Our wax filled jars are multi-purpose; once the wax is over the jars can be further used for different purposes. Moreover, we use recyclable cotton bags in our retail stores.

How is Ellementry empowering Indian artisans?

Ellementry has created a space that allows local artisans to flourish by bringing their talent and skill to light. We have given them a platform to showcase their talent in creating culturally rooted products with a modern outlook to suit the contemporary world. Today, Ellementry is providing full-time employment to more than 4,000 artisans, who were earlier unable to make a healthy living with the income that the art generated.

Ellementry is also reviving the dying art of India like papier-mâché. Untouched by machines, it is most likely the only art that is purely handmade using sustainable materials like paper, glue, and chalk powder. We have opened an exclusive papier-mâché unit in a small hamlet called Akoda near Jaipur. Here, expert artisans create products of everyday use like salad bowls, storage boxes, candle stands, and more. We are planning to revive the dying arts of every Indian state and provide means of survival to local Indian artists so they can pass the art forms to the younger generations.

We are giving respectable employment to an entire village of artisans and also providing them home-cooked lunch, free of cost. Our factories are safe and hygienic, and equipped with safety measures. We are in the process of getting more amenities for them like accommodation, schooling for their children, and more.

What are the eco-friendly design features in your office and workshops?

Our eco-friendly office is surrounded by trees, and we initiate plantation drives to reduce carbon footprints. About 70% of the power that we use in our office and workshops comes from solar panels; we do rainwater harvesting, and have built a greenhouse in the premises.

Passive Sustainable Design: The large window panels at our headquarters in Jaipur allow sunlight to pour in throughout the day; hence, lesser electricity is required during the daytime. We also use the earthen pots insulation system to reduce the heat.

Active Sustainable Design: We have implemented high-efficiency electrical, plumbing, HVAC, and other systems, designed to have minimal environmental footprints while creating energy and comfort.

Renewable Energy System: In a hot climate like Jaipur, 80% of the energy requirement of ours is fulfilled with solar panels that are placed on the roof and on the car-parking shed.


Native Landscaping: The large garden area with plants and greenery is maintained to keep the area naturally cool. Even the open space inside the building has plants and trees to reduce the solar heat gain inside the building even during the hottest time of the day.

Packaging: We are using eco-friendly honeycomb packaging material, and only recyclable, sturdy cotton bags that can also be used as a tote bag or a shopping bag.
In earlier years, windows and doors played a purely functional role. Today, functionality is one aspect only as such products are also making a style statement. Moreover, windows and doors have emerged as crucial elements in the protection of homes, its occupants and in conserving precious energy.

Fenestration companies today are offering designing, manufacturing, installation, and servicing of precision-engineered, 100% customised, extremely energy-efficient uPVC and aluminium windows and doors. The design of the products that enable noise insulation, protection from dust and pollution, weather, and storm resistance.

Noise barrier: Windows and doors are usually the weakest point of noise insulation in the home and the problem gets worse with traditional windows or doors which have gaps even when closed. Products made with multi-chambered profiles and fusion welded joints will improve overall sealing. Further, multiple point locking systems and double seals ensure casement windows and doors are tightly shut to cut out external noise. Gaps between window unit and the wall are also filled with a special silicone sealant. When closed, the windows and doors block outside disturbances, enhancing the quality of life. The windows can also be fitted with laminated or double-glazed laminated glass that reduces external noises manifold. This has become especially necessary during the pandemic as many people are working from their homes.

Weather resistance: Sudden storms and gale-force winds have emerged as a regular phenomenon due to the vagaries of climate change. But modern fenestration solutions are wholly wind-load compliant. For example, a high wind-load factor ensures such windows/doors can resist sustained pressure from stormy winds. In places particularly prone to sudden storms or dust storms, wind-load compliant solutions offer peace of mind throughout the year, even in times of cyclones. Innovative solutions are available for providing protection, ensuring no rattling frames, or whistling sounds, while increasing the safety and security of the home. The frame of the window is strengthened from within by steel reinforcements to provide a tough exterior to all frames and sashes. Further, the products can be reinforced with a hurricane bar that can bear wind speeds up to 250 km/hr.
The right window and door design can not only transform the façade of the house, but also protect the home. With the right design, you can keep out the noise, dust, rain, and pollution, along with getting better control over the rising energy costs.

Saket Jain, Fenesta

Improving home security: Windows and doors should be sturdy enough to enhance home security against unwanted intrusions and break-ins. But they also need to be elegant and aesthetically pleasing and allow natural sunlight and fresh breeze around the house. In villas and low-rise buildings, open, unsecured or weak windows/doors can be an easy invitation to burglars. Therefore, they should be outfitted with grills on sills, with the flexibility to fix any grill design. These can be retrofitted or removed while servicing the windows. Another option is grills on uPVC frames, which are fixed on the sill using a grill adaptor.

Additional features

- Toughened glass
- Multi-lock points that make sure that windows and doors are shut tightly
- Grills may not be required, which is the trend in European countries
- Heat-insulating framing materials
- Double or triple glazing technology
- Proper sealing between walls and window
- Sealing between the opening and fixed framing of the windows

Backed by the science of safety and the art of aesthetics, these modern products are modular and can be customised in attractive shapes and sizes as per the preferences and budget, without compromising on quality. The best-insulated homes are not only cooler in summer but also help save electricity cost arising out of running ACs.
India has set an ambitious target of providing housing facilities to all by 2022. With the country’s fast-paced urbanization, 25 million affordable housing units will be required by 2030. Both these facts indicate the mammoth task ahead for all construction industry stakeholders - both government and private. The question no longer is - can traditional methods of construction solve this problem? The answer to that has been an industry-wide resounding, “No.” Demonstration of this is seen across India in numerous delayed, poor quality and high-cost overrun housing projects in India. If this is a known challenge, what are the constraints the industry is facing to achieve a real technology transformation?

Construction Technology Knowledge and Application:
One of the critical challenges facing the industry is an in-depth understanding of construction technology and its application both among end consumers and many practitioners. One such technique is offsite construction wherein concrete elements are assembly-line factory manufactured and delivered onsite for assembly. The term “Offsite” denotes that the building is being manufactured in a factory instead of onsite as done traditionally.

Step 1: Value-Engineering Design for DFMA (Design for Manufacturing Assembly): The first step in offsite construction is to value engineer and break it down to repeatable components that can be assembly-line produced. Standard elements in a building include walls, columns, beams, roofs, bathrooms, MEP systems and staircases. In traditional construction, each staircase is designed and built uniquely, leading to inconsistencies and poor quality. Once a design is value-engineered, the factory has data on the exact number of walls, beams, and other elements with exact dimensions needed for the building. These computer-generated drawings are fed to machines in the factory, and the machines produce these elements with minimal human intervention.

Step 2: Industrialized Factory Construction: A high-end offsite construction factory is fully automated. Machines read the drawings fed to the computer and start the automated production function of building the element. Factory produced elements are consistent in quality, have minimal chances for errors, and optimally use material and water, ensuring minimal waste. High-end offsite construction factories (like Katerra’s) can produce both 2D or 3D concrete elements. 2D elements include roof slabs, wall panels, beams, columns, and even floors.
3D elements include staircases and fully functional rooms like bathrooms and kitchens that come factory-fitted with MEP and all fixtures, including taps, basins, bathtubs, cabinets, etc.

**Step 3: Onsite Assembly:** Factory produced elements are transported to the construction site and are fitted, using high-end connections that are durable and more earthquake-resistant than traditional monolithic structures. These connections are vital for ensuring the stability and durability of the structure, and many companies (including Katerra) have an IP (Intellectual Property) on connections. Connections are usually a mix of dry and wet connections, depending on the building codes and requirements.

**Advantages of Offsite Construction**

Offsite construction has several advantages in comparison to traditional construction and precast methods.

- Factory produced elements have better quality, consistency, and durability, unlike a traditional building, which depends on individual workers skills
- No material waste since machines optimize all the material used and there are minimal errors
- +50% faster than conventional construction, since all elements are machine-made and not labor dependent
- Offsite construction is safer, it also allows for skill development of unskilled labor and can help create better quality jobs
- More sustainable - factory produced elements are steam cured utilizing 70% less water in the process.

Being fully-controlled, all the variations and changes, and every aspect of the construction process are measured, mapped, and controlled, bringing transparency to the entire process.

**Future Prospects**

Let’s now evaluate how the advantages of offsite construction technology fit into the Indian scenario. Firstly, following the implementation of RERA, Real Estate firms are penalized heavily for delay in project delivery, apart from facing legal liability. Offsite construction technology can be a critical element of timely completion of projects.

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As India looks to bridge the critical gap in infrastructure, offsite is a must for timely and cost-effective delivery of projects

Nejeeb Khan
Offsite construction saves realtors from unnecessary cost overruns due to faulty construction at site by the workers. Higher savings in material cost and timely delivery of projects can add both better cash flow and credibility for realty firms, which is beneficial to the bottomline of the realty firms. This is a highly scalable technology that can help deliver the housing numbers on time. As the government eyes ‘housing for all’ with millions of homes in the affordable housing space, offsite construction technology will be critical in realizing this dream. Even recent government decisions to build affordable rental housing complexes (ARHCs) for migrant workers can make way for the massive adoption of this technology. In the infrastructure sector, offsite construction can be deployed for faster creation of hospitals, bridges, airports, and other critical projects. Offsite construction can also solve the labor shortage challenges faced amidst the ongoing COVID pandemic. Moreover, more offsite factories will spur construction activity in the country, boosting the ‘Atmanirbhar Bharat’ mission of India and creating more skilled jobs.

**Challenges**

Ironically, the adoption of offsite construction technology remains slow despite its advantages. Lack of knowledge about offsite construction is the most critical factor. Apart from this, the upfront investment in technologies and lack of government intervention are also significant deterrents. The government has to actively support private players to set up offsite factories with tax breaks and other incentives, which will encourage more companies to adopt this technology at scale.
Architecture in the Age of Augmented Reality

How Virtual Reality (AR) and Augmented Reality (AR) will shape the future of built environments

To those outside of the industry, the idea of taking a virtual tour of a new building before it’s even been constructed, every detail brought to life by wearing VR goggles, might sound like science fiction. But for designers, these futuristic technologies are becoming par for the course, rapidly transforming architecture as we know it.

And the technologies continue to advance at lightning speed. Right now, Hames Sharley’s South Australian Studio Leader and Director, Leon Gouws has partnered with Professor Ning Gu from the Australian Research Centre for Interactive and Virtual Environments (IVE) to explore innovative ways to integrate VR and AR into both practice and education.

The pair is exploring the application of a new VR infrastructure recently acquired at IVE called Hyve-3D; a room-sized large-scale immersive design and visualisation system which will allow the creation and viewing of 3D models and sketches both co-located and remotely. This cutting-edge technology is a major breakthrough in 3D design as it removes the need to wear VR goggles, enabling everyone in the room to immerse in the virtual environment and directly interact through 3D sketching.

“The Australian Research Centre for Interactive and Virtual Environments (IVE) is a world leader in AR and VR, aligning computer science, engineering, art, architecture, and design,” says Professor Ning Gu. “IVE was created as a response to the challenge of increased demand for AR and VR technologies globally.”
Professor Ning Gu, Deputy Director of IVE and Professor in Architecture at UniSA, works as part of a team of researchers led by Director Professor Bruce Thomas - who are pioneers in AR and VR research, including wearable computing, interface design, empathic computing, 3D visualisation, perception, and telepresence. “My role at IVE is to foster interdisciplinary collaboration between science and engineering, and, art and design, applying these advanced technologies to explore opportunities in design and the built environment,” he says.

AR in design
Architects are already familiar with Computer-Aided Design (CAD) tools such as Building Information Modelling (BIM), parametric design, and various specialist simulation, analysis, and management tools. These are typical VR technologies as they allow architectural design to be virtually represented and realised before construction. But augmented reality takes things to the next level.

“AR goes one step further to allow these visualisations which are virtual to be inserted into the physical reality, hence, it is augmented,” explains Prof. Ning.

“For example, we can now conduct a design review meeting on the actual development site where designs can be examined and experienced in real scale. We can also virtually see through the wall surfaces to reveal the services behind for clash detection, or live-feed data of indoor environmental indicators to be provided to the physical space when testing different layout plans. It's extremely beneficial and can significantly improve design quality and efficiency in the long term.”

Cutting edge research
IVE works on a range of projects focusing on the built environment sector, generously supported by various government and industry funding. “Our projects range from augmenting BIM model visualisation and analytics, to enhancing digital collaborative practices in the housing sector, to visualising big data for supporting planning and design-decision making, and to digitisation and virtual story-telling of aboriginal built heritage,” informs Prof. Ning. “The advanced research conducted at IVE will provide valuable resources and market advantages for architectural practices to continue to innovate and grow.”

According to him, industry engagement is key to IVE as it allows the research to be well-grounded and solve real-world problems.

IVE has partnered with various industries to develop cutting-edge AR and VR tools, to facilitate the adoption of the technology, and to conduct longitudinal studies to explore the technological impacts of AR and VR. This advancement is all possible through funding and other industry-funded scholarships on research students and fellows.

He believes that the future development of AR and VR are predominantly in the following two areas: “Firstly, we’ll see the continuing advancement of the interfaces to allow easier access and more intuitive interaction. In other words, the realities of virtual and physical are truly merged. Secondly, we’ll see the enhancement of the capabilities in AR and VR environments, supporting with the advancement and integration of Artificial Intelligence (AI), data analytics and citizen science.”

This will allow AR and VR to evolve from being simply a visualisation and simulation technology into a new and more powerful technology for design, decision making and for communication and engagement. The communication and engagement aspects are especially impactful, not only for the design professionals but for the broader community, which will keep us connected and communicate more effectively beyond many physical constraints.

These future developments of AR and VR will have significant impacts on improving the design of the built environment. Further, the merged or mixed realities will require us to re-consider the definition of the “environment” we live in. With more and more people spending increasing amount of time in mixed realities, as we are all currently experiencing, what is the role of architects? How can we contribute to the design of this holistic environment across both realities? “This is a challenge and opportunity for us all,” says Prof. Ning.

(Article contributed by design firm Hames Sharley)
Healthcare Lighting

To meet the growing demand for products in the health security space, the RJ Group has introduced UVC lighting technology for the Real Estate sector, and the first of its kind toilet light disinfection system, avers Piyush Agarwal, CEO, RJ Group of Companies.

RJ Group has introduced a UV-C Disinfection system, which has been validated to effectively inactivate SARS-CoV-2, the virus that causes Covid-19. The products, designed with UV-C light sterilization technology, are especially curated for sectors like housing, retail, hospitality and commercial. All the products are 100% designed from the company’s homegrown tested technology with ISO 13485 certification to manufacture UVC systems and the testing report has been generated from Haffkine Institute. This entirely Made-in-India range supports the government’s call for ‘Aatmanirbhar’. RJ Group has ensured strict quality control on every single product units.

The UV-C technology is designed in accordance with the norms suggested by medical and research bodies to disinfect surfaces from germicidal bacteria. The UV-C light deactivates the DNA of bacteria, viruses and other pathogens and thus destroys their ability to multiply and cause disease.

This Defence range developed by RJ reduces the bacterial and viral charge of the air in closed environments, and provides quick sterilisation in offices, classrooms, hotel rooms and healthcare environments. The UVC Light disinfection allows real estate developers to realize all the benefits of germicidal lighting in limited space applications such as PTACs, Fan Coil Units, and Water Treatment plants. The benefits include reduction of bacteria, viruses, mold and odour in the common areas.

RJ is the first Indian firm to introduce Conveyor Belt Sanitization systems to sterilize food, vegetables, meat, bags, luggage etc on conveyor belts within 8 seconds. It is now offering the first of its kind (in the world) a Patented Toilet Light Disinfection System that sterilizes the entire toilet that comes with sensors and is absolutely safe. The products are made of 99% CRCA Steel and 1% non-toxic plastic components. The lights have a life span of 4000 to 16000 hrs, after which the lights need to be changed.

Says Piyush Agarwal, “As the lockdown is being lifted in phases across the country and various sectors are resuming operations in the ‘new normal’, health security has become a priority for everyone. Malls, hotels, and housing societies have numerous points of interaction and the common touchpoint areas can be a source of transmission of harmful viruses and bacteria. UVC technology in our light disinfecting system helps in effectively disinfecting surfaces from germicidal bacteria that fuel growth of viruses. By its usage, we are not only eliminating the viruses but also creating a future safety net of protection for possible stronger viruses that could affect life.”

We have a strong in-house R&D team to create world-class products, and are now planning to install UV-C light systems at hospitals, airports, malls, theatres, schools, restaurants, public toilets, corporate houses and residences.

Piyush Agarwal, CEO, RJ Group
The negotiation with the ‘normal’ started with the program when the client wanted to build her retirement home in her ancestral property in the suburbs of Chennai. The requirement was to build a 3-bedroom house with plenty of light, ventilation, and a garden.

The footprint of the house is only 600 sft that grows into two levels. In the place of building boundary walls and a steady setback – the offset of the boundary wall - the project staggers its spaces, creating courts and socializing spots with the neighbours. Thus, the project was inserted at site, as a set of solids and voids, protecting the internal spaces from direct glare, providing privacy, and creating visual relief within its edge.

The vibrant suburbia and the unusual dimension of the plot were the starting point of the design process to create a house that belongs and outspends at the same time. The house zone starts at the 50th feet of the plot depth. The junction is marked by a curving patterned brick wall.
The house stands as a testimony of ‘dressed’ ideas, built from pieces that were meant to be discarded, as kitsch, old fashioned and aged. Optimum led to Optimism

Ar. Deepa Suriyaprakash

It also adjusted itself to sit amidst the old well, and the drinking water sump - around which the garden is built. Every piece of the earlier house was retrieved and treated as a relic, and reused in the new house. Reclaimed bricks were reused at the foundation, the demolished debris were used to fill and raise the level of the site, and all the wooden sections retrieved from the old madras roof terrace were reused as frames for doors and cabins. The steel sections were used as frames for the main gate and the court grill, extending the shelf life of the material and repainting the memories from the old house.
When the premise of the house was negotiated to become efficient and sustainably conscious, the material choice followed. CSEB (Compressed Stabilized Earth Blocks) were used for construction. In this too, the idea of treating the material in the most straightforward form was reconsidered and brick walls became fields of play to explore, pattern, course structure, strength, and fenestration modules. Although Concrete frame structure and CSEB brick fill make the basis of the house, colours and textures and finishes add character.

The up-cycling and cost conserving streak continued, with assorted grills procured and assembled from the second-sale market; the floor/wall tiles picked up from ‘discontinued display pieces’ of large tile showrooms in the city; the kitchen and wardrobe shutters re-framed from old window shutters; ventilators and doors picked up from demolition sites; vibrant oxide flooring and aluminum windows were preferred for their price and recycle value.

The living room grid shifts bay to create room for an extendable urban garden and court, which gets its protection from the assorted grills picked from ‘Gujri’ shops. The dogleg stair gets a twist at every flight with changing oxide colour and brick course pattern. The bedrooms welcome warmth with the colour yellow and inlaid vitrified tile pieces, and the wardrobe shutters are yesteryear doors as are the kitchen woodwork, windows, and ventilator shutters.

The final exploration and negotiation happened in the form of ‘super graphics’ that came to earmark the place without use of any additional statement material. A study of the brick pattern revealed the inherent shift of light and shadow; this was captured at the entrance and facade level as graphic patterns, through the medium of paint.

Fact File
Typology: Residence
Location: Anna Sala
Project area: 2690 sqft
Design Team: Deepa Suriyaprakash, Vanessa, Jayanth, Shruti Gowda, Vinod
Engineers: Guruprasad Kalkura Associates
Project year: 2018
Project Cost: Rs. 42 lakhs
Photographs: Shankara Gomathy Selvaraj
Materials used: Compressed stabilised earth blocks, oxide cement flooring, reclaimed and up-cycled materials, including MS grills, tiles and wood.
The MON house reflects a strong identity in its design by (ma!ca) architecture that pushes creative boundaries and pays attention to every detail, while fostering well-being through the use of materials, colours, light, craftsmanship, and creating made-to-measure spaces.

Taking advantage of a generous and dramatic ceiling height, a wrap-around roof light in the kitchen block enhances the feeling of a connection to the green outdoor environment. Bathed in natural light that penetrates through the skylight, the kitchen creates the impression of an overall unified living experience blurring lines between the inside and out.

The set of arched windows frames all views from the kitchen to the garden courtyard; the softness of the rounded shapes reflects the original house’s sculptural form and character; deliberately merging the new and the old in this project. The additional space consists of red terracotta bricks. This colourful graphic language interspersed with contrasting glazed bricks, and varying depths, produces a vivid and playful pattern of light and shadow on the facade.
The extension volume is strictly minimalist but changing. The colorimetric composition of terracotta red mixes with the green shades of the pool and garden. The external joinery composed of aluminium clad evokes this colour palette. A bright and daring colour which boldly contrasts with the raw-aesthetic design of volumes and surfaces and stands out even more against the white decor of the interior, making the most of natural light. Custom-designed furniture fills the space between the supporting grid of concrete columns and includes what is required to support daily life: multi-purpose built-in storage that can be used as a toy-box, a customizable work area, a display shelving unit, a fireplace, a wine cellar and an entrance wardrobe. The pool offers a constant flow from the indoors to the vibrant outdoors. The cohesive use of colour and material for the floor infuses in the house a natural continuity.
Magnus Opus

**Urban Zen** creates uber luxury interiors for this 22,000-sqft residence in the upscale Banjara Hills in Hyderabad

If one would define this state-of-the-art project by Urban Zen, magnum opus is what comes to mind. Sprawling over 22,000 sq.ft., the architecture gives a series of overlapping volumes. Rising tall on a narrow plot, the horizontal extensions deliberately give the structure a sense of proportion.

A stilt floor takes you to the parking area, which is inspired by a racing track. The flooring has basalt stone and strips of travertine, and the linear profiles in the ceiling echo the design intent of the floor.

In the formal drawing room, a magnificent Aurora chandelier from Sans Souci, made of Czech glass, dangles from a 30-ft high ceiling and is fully controllable to reflect any colour. The interiors are a mélange of materials such as stone, brass, wood, corten steel, brass mesh and laminated glass, with furniture from Fendi and Roberto Cavali, the dining table by Roberto Cavali brass murals, granite cladding, Cavali light pendants, wall paneling finished with Corten steel and St. Lauren marble, seating from Fendi, speakers from B&O, a home theatre, and a distinctive staircase, complete the picture of high-end luxury.
Standing out from the crowd, the home speaks of real magnificence, real difference, and real courage, while the interiors reflect uber luxury with the choicest of materials and furnishings.

Rohit Suraj, Founder & CEO

The project combines both local and global elements sourced from sustainably harvested resources. There is abundant use of marble, teak wood, carefully curated fabric, beveled MDF blocks finished with veneer. In the puja room stands a profile of the gopuram at Tirumala, created from a single block of marble.
Residence

Fact File
Name of project: Overlapping Volumes
Location: Banjara Hills, Hyderabad
Built-up Area: 22,000 sqft.
Design Team: Rohit Suraj, Rohit Patnala
Execution Team: Shakeel Patel, Tariq Patel
Completion Date: Sept 2019
Initiation date: Aug 2017
Photos: Ricken Desai Photography
An Affair with Nature

**Space Race Architects** create a contemporary home with an unconventional design, while bringing an overall sense of balance.

Spread over 5000 sq ft, the house attempts to stand apart from the neighbourhood. Elements and materials are juxtaposed to create balance. The entrance boundary wall is ushered by greens, adding to the aesthetics. The main gate is linear and patterned in grey. The interplay of light and materials is evident in the design. It was a requirement as per Vaastu to leave a free space in the north side. The design firm provided a service passage while incorporating a water fountain. Mirrors on the side walls of the passage enhance the space.

Detailing is seen in the furniture, wooden paneling on walls, chandeliers to light up the spaces, and in the uniquely designed bedrooms, metal artwork on walls, the puja room, the bar area with its artistic use of metal rods to form a bottle rack, gold designed counter, wooden flooring and an arched wall design. A minimalistic façade, functional and spacious planning, and sophisticated interiors achieve a balanced design. Dressed in a colour palette of whites and greys, the façade symbolizes purity and fluidity in form.
The client’s brief was to design a house which maximizes space efficiency, has an affair with nature, is minimal, and in compliance with the norms of Vaastu. The design is unconventional; it is fluid, providing a sense of flow and continuity of form - not usually seen in the precincts of Punjab.

Principal Architect Thakur Udayveer Singh
Fact File
Project Category: Interior Design
Covered Area: 5000 sq ft.
Location: Jalandhar, Punjab
Architecture Firm: Space Race Architects
Specialist Design Team: Ritika Singh
Completion Year: 2018
Materials & Products: Schuco, Grohe, Schneider, Osram, Sirca, D décor
Photos: Purnesh Dev Nikhanj
A Radical Reinvention

NEON’s ‘Shiver House’ is an exploration into the idea that architecture can be used as a means to create a closer emotional link between its inhabitants and the natural world it sits within.

Shiver House is a radical reinvention of the common Finnish Hut (mökki). The project is a kinetic “animal-like” structure that moves and adapts in response to surrounding natural forces. In addition, the project explores the idea that architecture can be made to seem “alive” with the intention that this will engender a deeper and longer-lasting emotional relationship between people and the structures we inhabit.

“Shiver House’s architecture is in a constant state of transformation and ‘performs’ with the ever-changing flows of the wind. Conceptually, the design suggests that architecture, rather than being static and function-led, can be poetic, living, and dynamic, which changes the way we relate to the landscape that surrounds us,” says Mark Nixon of NEON.

The house uses 600 kinetic counter-weighted shingles which respond to the changing weather conditions of the site. Wind, rain, and snow cause the shingles to rotate into a closed position giving the structure a temporary appearance and function of a shelter. Users can observe the ever-changing environment as they watch the kinetic shingles modulate the internal light levels and view the surrounding landscape.
The project is constructed using a simple timber structure which supports rows of tensioned steel wire. These steel wires are treated as batons and are designed to hold the counterweighted shingles. The shingles are constructed using a folded and cut Airplane Ply which has been soaked in a protective oil (donated by Virtasen Maalitehdas). The counterweight is constructed using a stainless-steel nut and bolt.

Source: V2.com
Photo credit: NEON
Data Centres: A Promising Sunrise Sector

Data centres are set to become one of the most promising sunrise sectors heading for a rapid boom, offering developers a new opportunity to diversify from the traditional business of residential, commercial, and retail assets.

The massive digital push initiated by the Covid-19 pandemic has been lucrative for data centres, which can still deliver an annual rental yield of 10-14%. The key cities leading demand for data centres include Mumbai, Chennai, Bengaluru, and Hyderabad, among others. Says Shobhit Agarwal, MD & CEO, ANAROCK Capital, “Currently, data centres in the top 8 cities occupy 7.5 mn sq. ft. space and an additional 10 mn sq. ft. space is likely to be added over the next 2-3 years. Immediately after India went into a lockdown mode there was a 25-35% increase in data centre capacity usage as companies began to overhaul their digital infrastructure to deal with the new work environment.”

He adds, “The pandemic has been a massive catalyst for digital adoption across the spectrum. Work-from-home (WFH) compulsions, online education, video-based medical consultations, a huge increase in ecommerce and business-related video conferencing and webinars are increasing the demand for data centres. Furthermore, the government’s move to make data localization mandatory ensures a promising future for data centres in the country.”

As per industry estimates, the data centre outsourcing market in India is worth more than USD 2 bn and is projected to grow at 25% CAGR to reach USD 5 bn by FY 2023-24. In fact, data centres are emerging as an alternative real estate asset class with huge potential, and leading real estate developers are zeroing in on this opportunity to reap superior returns from early investments. Leading players like Adani Group, Hiranandani Group and Salarpuria Sattva have already rolled out significant investment plans for building data centres in India over the next decade and more.
Top 8 Cities to add ~10 mn sq.ft. Data Centre Space in next 2-3 Years

- Potential to earn 0-14% rental yield annually
- Min. 25-35% increase in data centre capacity usage during lockdown as companies overhauled digital infrastructure in new work environment; trend to continue
- Mumbai, Chennai, Bengaluru, and Hyderabad see maximum demand
- Presently, data centres occupy 7.5 mn sq. ft. space in top 8 cities; more than 10 mn. sq. ft. new space to be added over next 2-3 years
- Adani, Hiranandani Group, Salarpuria Sattva etc. have massive investment plans for building data centres in India
- Govt’s efforts to make data localization mandatory ensures promising future for data centres in India

Towards a Digital Future

India has embarked on a concerted digitization drive to improve efficiencies and generally make life easier for its citizens. Digital India – the flagship programme of the Government of India (GoI) – intends to transform the country into a digitally-empowered knowledge economy. There are significant growth drivers in place.

Sunteck Realty has acquired a prime project of approx. 50 acres in the posh location of Vasai (West), having a development potential of approx. 4.5 mn sq.ft in the prime Mumbai Metropolitan Region (MMR). With its captivating and unobstructed view of the Arabian Sea, the project will give a facelift to the upcoming micro-market in the MMR. The location also boasts of excellent connectivity, upcoming infrastructure developments, and all major amenities around it.

Said Kamal Khetan, CMD, “This project will largely cater to the mid-income segment; it fulfills the emerging customer needs for residential premises that complement a luxurious lifestyle and suit the requirements for Work from Home. Sunteck will break all existing benchmarks of luxury lifestyle and provide the right offerings.”

Sunteck Realty offers luxury sea view living for mid-income group in Mumbai
New Age Green Star Homes

Ecologically accountable and resource-efficient buildings are currently becoming an essential part and future of the construction and real estate industry in India; in such a scenario, Green Star Homes are set to change the Real Estate residential and commercial developments, observes Apurva Gupta, Chief Marketing Officer, Rivali Park CCI Project.

We live in a world where we tend to breathe polluted air, use fast-depleting natural resources, and face the threat of climate fluctuation. These are no longer cautionary signs but stark reality. On the positive side, there is growing awareness with energy-efficient eco-friendly green homes and commercial structures becoming the buzzword amongst buyers and investors. In fact, there has been a mounting number of home investors who are keen on investing in eco-conscious homes.
Real Estate developers and builders have been paying close attention to this demand for green homes and ecologically sustainable buildings. They are comprehending the significance and connection between environment-friendly properties, cost savings, and a healthy and restored living. With the residential market in India gradually embracing sustainability, there are promising indications that we are on the verge of a modification; this is clearly evident through the optimistic reception of the fast-emerging concept of Green Star Homes in India.

The aspect of sustainability in the Real Estate context is not only confined to energy conservation but also encompasses the utilization of capitals, bearing on the surrounding environment, and living conditions for the residents. Green buildings integrate ecological features like efficient water and energy usage, use of renewable energy, preference for recyclable materials, landscaping, and building management. The on-going Covid-19 pandemic has underlined the advantages of living in safe, healthy, and resilient homes. Green housing will generate less waste and bestow the inhabitants with a recovered living environment. Moreover, studies conducted on the health and wellness quotient of living in green homes has revealed that respiratory issues tend to drop in green buildings.

Sustainable buildings account for only 2% of new constructions in India. The country’s emerging housing and construction segment is one of the chief contributors to carbon emissions, which accounts for about 22% of India’s over-all annual carbon emissions. While the building construction accounts for up to 40% of the total energy consumption in India, the housing segment is known to account for over 60% of it. The biggest advantage of green star homes is that they come equipped with Zero Net Carbon inclusions.

Advantages of Green Housing

Certified green buildings typically lead to energy savings of about 40-50% and water savings of about 20-30% as compared to traditional buildings. There is an increasing effort to build homes consciously so that they are better for the environment, inexpensive to operate, and more comfortable. The developer makes a mindful effort to utilize materials that are energy-efficient and thereby give more value to the buyer while contributing towards conservation of natural resources.

The ‘conscious’ home uses eco-friendly resources, recycles wastewater and other natural materials, produces no pollution, encourages composting, manages heat control through proper insulation methods, lays emphasis on landscaping and greenery, and uses locally produced building materials. All these aspects make a green home a feasible and cost-effective sustainable solution.

Green Star Homes lead to augmented revenue for both the end-users and the developers. The additional LEED certification cost is about 2-5% of the overall cost of the building. A developer can charge a premium for the ‘Green Building’ certification and the consumer will, in turn, have amplified resale value and higher rental yields, thus benefitting both the parties. Although the preliminary expenses for a green star home is slightly higher, but going forward, it will turn out to be cost-effective as the buyer’s upkeep charges on water and electricity are significantly reduced.

Challenges for Developers

There is extra cost of construction, price restrictions, trouble in sourcing eco-friendly, recyclable materials for construction and a long gestation period.

• Buyers are hesitant to pay a premium for green buildings.
• Absence of demand and lack of awareness among buyers makes developers hesitant while investing in this segment of homes.
• There is a dire need to convince buyers that the total cost of ownership, together with the maintenance cost over the property life cycle, will bring them noteworthy savings in the long run.

India, which has been experiencing record-breaking development and urbanization with over 900 million new urban residents expected by the year 2050, faces substantial challenges: speedy development of the essential infrastructure while lessening the environmental impact of such development. Since it is judicious to safeguard the environment and preserve the natural resources, Green Star Homes have become the need of the hour.
Real estate developer Akshaya Pvt Ltd – a company that brings quality, innovation, and transparency, is offering its Chennai-based homebuyers to have their homes furnished with IKEA products. Solutions from IKEA include fully furnished, customisable ready-to-move-in 2-and 3-BHK homes. Homebuyers will also have the benefit of selecting their own IKEA-furnished homes from 12 specially curated packages conceived by IKEA designers, giving them the flexibility of organising their living according to their taste.

Akshaya offers its Chennai-based homebuyers IKEA furnishings
What’s more, the homebuyers get free IKEA furnishings worth Rs. 4 lakhs and Rs. 5 lakhs, respectively. The packages are offered in two themes: Modern and Traditional. The various package combinations have been created keeping in mind the several dimensions of the apartments. Once a particular IKEA package is selected by the homebuyers, Akshaya will ensure end-to-end services including transportation from the IKEA Hyderabad store to their installation. Prospective homebuyers can visit two IKEA furnished show homes set up by the company at its project in OMR Kelambakkam comprising spacious 2 & 3 BHK homes starting from Rs. 37.42 lakhs and Rs. 49.44 lakhs, respectively.

T. Chitty Babu, Chairman & CEO of the company, said, “As a brand, Akshaya is well-known for innovation in design and execution. IKEA products along with our homes will bring homebuyers aesthetically designed, stylish and sophisticated homes with a Nordic touch within the city of Chennai.”

Alan Mackenzie, Country Business Manager, IKEA India, “IKEA aims to offer a better and brighter life through our beautiful, affordable and sustainable home furnishing products. We are happy to be reaching many more people as part of the new homes by Akshaya.”

Akshaya has launched Tamil Nadu’s first themed homes project ‘Akshaya Orlando’ in an official tie-up with Walt Disney, besides ‘Akshaya Shanti’ - a first-of-its-kind Grade-A office suites at the Iconic Shanti Theatre Complex on Mount Road.
Kich: Ruling Railing Industry for 28 years
Forays into Retail

Kich Architectural Products was established in 1992 in Rajkot. Today, it is one of the most trusted and reputed names in the Architectural Industry for its high-quality railings. In fact, every product from the House of Kich is a mark of excellence and elegance. Kich’s quality standards are of the highest rank, and meet global quality parameters.

Kich railings are in demand for their strength, durability, aesthetics, designs, and smooth functionality. The company delivers reliable pre-and post-sales service and support to its customers. Besides being well-rooted in India, it has a wide-spread sales and service network in Europe, Middle East, Asia, and Africa.

To help discerning customers get the best railing solutions, Kich has added a new range of exclusive railings for the retail segment as well. The company has observed that a lot of customers face problems in finding a good railing solution. Problems include railings with raw finishing, damages, installation issues, poor post-sales services, inferior quality of material, etc.

Kich’s range of Railing solutions comprises:
- SS 316 Grade Railing Systems
- SS 304 Grade Railing Systems
- SS 316/304 Modular Railing Parts
- Aluminium Railing Systems
- Unique PVD Finish Railing Systems (PVD Finishes of Antique Brass Matt, Rose Gold, Champagne, Bronze etc.)

Kich was the first company to introduce the ‘Knock-Down’ railing system in the Indian market. The railings require no maintenance and have more durability compared to other brands. Available in metal thicknesses of 1.5mm and 1.2mm and extra-long High Tension Anchor and Fasteners, Kich handrails provide better strength for a stronger grip, and there is no welding or fabrication required. The railings are made from corrosion-resistant material which repels bacteria and is much safer to install and use in view of the current pandemic scenario.

The company has a wide network of channel partners pan India, who assist Kich customers in any region and location, while a dedicated customer care unit addresses all queries and provides technical assistance when required.
Collaborative Architecture to be part of Humanitarian Design Series ‘DESIGNING PEACE’

Collaborative Architecture has been invited by Cooper Hewitt Smithsonian Museum to be part of the ground-breaking Humanitarian Design Series titled - DESIGNING PEACE, due in the second half of 2021.

The invitation is remarkable, considering it is exhibited at the historic Cooper Hewitt Smithsonian Design Museum, arguably one of the most important design museums in the world, which in the past had curated some of the most defining exhibitions that shaped the discourse and narrative of architecture and design. The curatorial team selected the Indian National War Museum, New Delhi as the finalist in the 2nd stage international competition for its flipping of the brief by focusing on ‘Peace’ as the centrality of the design. The entry was rightly named as ‘Indian National Peace Museum’.

The entry to the Museum is dedicated as the ‘Peace Pavilion’. This is one of the most interesting and significant part of the architectural proposal. The spatial reference can be traced back to the Stupa at Sanchi, dedicated to Lord Buddha and his teaching of non-violence - the bedrock of Gandhi’s vision for India’s democracy and its unique position in the world.

The competition for the Indian National War Museum was conducted by the Prime Minister’s Office and attracted nearly all important national and international architectural studios - a total of 268 entries from the world over. Collaborative Architecture was one of the 7 firms selected for the final 2 stage. Unfortunately, the competition has since been shelved. Collaborative Architecture, in the past, has qualified and got into the final rounds of some of the most important architectural competitions globally. BCDA, Iconic Tower, Manila, by Philippine Government with J.Mayer H, Berlin as collaborating partners, Musi River Revitalization project, 57KM of Musi river regeneration project by Telangana Government in Hyderabad, with Henning Larsen Architects as collaborating partners, Israeli Lounge at Kennedy Centre, Washington DC, etc. are some of them. The exhibition will travel to two more places, after premiering at the New York Gallery.
Reopening Strategies

USGBC Releases New LEED Guidance to Address COVID-19 and Support Buildings with Reopening Strategies

The U.S. Green Building Council (USGBC) has released four new Safety First Pilot Credits in response to Covid-19. The credits outline sustainable best practices that align with public health and industry guidelines related to cleaning and disinfecting, workplace re-occupancy, HVAC, and plumbing operations. These credits are available to all LEED 2009, LEED v4 and LEED v4.1 projects and can be used by LEED projects that are certified or are undergoing certification.

"These new credits are a first step in helping the building and construction industry demonstrate its commitment to sustainable strategies as part of building a healthier, more resilient future," said Mahesh Ramanujam, President & CEO of USGBC. "Supporting environmental and occupant health is a critical part of supporting community health and, as we look ahead, we know LEED and the USGBC community will play a role in delivering solutions that lay a better foundation for our economic and environmental well-being."

Cleaning and Disinfecting Your Space credit requires facilities to create a policy and implement procedures that follow green cleaning best practices that support a healthy indoor environment and worker safety. In addition to product considerations, the credit also requires procedures and training for cleaning personnel, occupant education and other services that are within a management team’s control.

Re-Enter Your Workspace credit is a tool to assess and plan for re-entry, as well as measure progress once a space is occupied. It identifies sustainable requirements in building operations and human behavior that take precautions against the spread of the virus. It aligns with the American Institute of Architects (AIA) Re-occupancy Assessment Tool and requires transparent reporting and evaluation of decisions to encourage continuous improvement.

Managing Indoor Air Quality during Covid-19 credit builds on existing indoor air quality requirements and credits in LEED. Building teams should ensure that indoor air quality systems are operating as designed and determine temporary adjustments to ventilation that may minimize spread through the air. Additional considerations include increasing ventilation and air filtration, physical distancing of occupants and following measures outlined in public health and industry resources, as well as the guidance that also encourages monitoring and evaluating indoor air quality on an ongoing basis.

In addition to these new LEED pilot credits, projects can also take advantage of Arc Re-entry, a set of resources being launched to help facility teams assess and communicate recovery efforts, as well as the WELL Health-Safety Rating. GBCI will be providing third party certification support for the WELL Health-Safety Rating. USGBC is focused on sharing guidance with its recommendations with all projects, regardless of whether they are pursuing LEED certification, in an effort to continue to support economic recovery while also laying the foundation for society to be more sustainable, healthy and equitable.

Signify Innovations launches Philips UV-C Disinfection system

Signify Innovations India has launched Philips UV-C Disinfection system that uses UV-C radiation technology, which has been validated to effectively inactivate SARS-CoV-2, the virus that causes Covid-19. Philips UV-C Disinfection system can quickly and effectively disinfect objects of daily use in homes, such as fruits and vegetables, packaged food, keys, mobile phones, stationery, laptops, and baby products. This product can also be used in offices to disinfect the daily use objects. Created with state-of-the-art technology, the system is easy to use, low maintenance and portable. As the product has the light source in enclosed space, it takes approximately two to eight minutes for disinfection, depending upon the size of the object. Designed and manufactured in India, the new range is another step in the company’s support to the government’s call for self-reliance. The range comes in three variants of 10, 15, and 30 litre capacity, and is priced at ₹7,990, ₹9,990, and ₹11,990, respectively. It will be initially available on leading e-commerce platforms and through select Philips Smart Light Hubs.
Prioritising Sustainability & Digital Transformation

It is important to start now and design buildings that are equipped with safe, smart and sustainable building technologies for the future, says Raj Manek, Executive Director & Board Member, Messe Frankfurt Asia Holdings.

The construction and architecture industry in India, just like other sectors, has been adversely affected due to the economic slowdown that we are currently facing. But “I believe the pandemic does have a silver lining to it as it will force many construction and architectural firms in India to prioritise automation and digitalisation sooner than we expected. The construction industry, which has been known as a labour-intensive industry is shifting its focus to digitalisation, which will prompt companies to explore new ways of automating their processes across all stages – be it design, construction or operation of buildings.”

According to a recent report, 66 per cent of construction companies in India are prioritising digital transformation. However, digital maturity in the construction space in India is less as compared to other countries. The current challenges like lack of labour force, restricted use of construction materials and health safety concerns will make it imperative for the sector to adopt and put into practise advanced technological concepts like cloud-based collaboration, artificial intelligence, augmented reality (AR), machine learning (ML), and most importantly, building information modelling (BIM). The developments happening in these fields are poised to improve buildings and infrastructure development in India.

This is also the time for Indian cities to embrace smart and sustainable designs for both residential as well as commercial buildings. As the curve flattens, climate change is another looming concern for economies around the world and it is important to start now and construct buildings that are equipped with safer, smarter and sustainable solutions – especially in the case of water management through plumbing, recycling, kitchen and bathroom technologies.

Messe Frankfurt India’s upcoming virtual edition of ISH India powered by IPA, (which will be held will be held on 17 – 18 September 2020) is working in this direction to provide architecture and construction companies a preview of innovations in this segment and meet potential vendors to source online through a new digital platform. “We are working on integrating rich content formats such as webinars, live demos through the virtual edition that will enhance both sourcing and business networking experience for the industry.”

Messe Frankfurt India hosts some of the leading building technology trade fairs in India including – LED Expo (Mumbai & Delhi editions), Light + LED Expo India, International Elevator & Escalator Expo as well as ISH India powered by IPA. Moreover, the Indian subsidiary is part of the CREDAI Action Committee to represent the voice of its exhibitors from the building technology sector for the revival of the Real Estate sector. Through its continued and strong association with CREDAI-MCHI, the aim is to facilitate stronger dialogue and enable real estate developers and builders access need-of-the-hour solutions in plumbing, sanitation, bathrooms and kitchens, renewable energy and home automation systems.

Both technology and sustainability will play a significant role in the construction and architecture sector post COVID 19 and Messe Frankfurt India through its building technology shows intends to address market demands as well as keep the industry connected through its virtual editions.
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