biltrax

June 2021 | Issue 01

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“Contextual fit is a crucial goal for humane and sustainable designs. The designs should be appropriate to the context in terms of place, people and programme; in other words culture, climate and construction.”

- Yatin Pandya

From the Founder's Desk

Dear Readers,

The construction industry plays a major role as our country transitions from 'developing' to 'developed' as a part of nation building. India has carried the status of a 'developing nation' for as long as I can remember. Although we as a nation are at par with most developed nations with regards to modern methods and technologies, India's construction industry is largely decentralized, disorganized, and opaque. At Biltrax Construction Data, we enable sales, marketing & business development teams of construction material manufacturers, distributors, turnkey & trade contractors, design, engineering, and project management consultants with growth opportunities.

Biltrax Media aims to cover details of the construction industry including – new trends in architecture and materials, upcoming projects, and the work that various organizations undertake in the industry. In other words, we work towards offering clarity and resources to those involved in this field of work. We at Biltrax Media, together with Biltrax Construction Data, undertake the mammoth task of analysing construction data pan India, single-handedly mapping large quantities of data without compromising on the quality of the analysis. Biltrax Media, is a diverse team and predominantly driven by architects, is in-charge of providing construction updates and raw data for further assessment and analysis.

This e-magazine is a brief representation of some of the work we do here at Biltrax Media, and it is our hope is that we are able to generate public interest in the Construction and Design industry. The magazine and the platform Biltrax Media could not have been possible without the esteemed guidance and leadership of our previous Associate Editor, **Shriti Das**, who is an architect by profession. It is under her guidance that the platform has matured into what it is today. I thank Shriti for all her contributions in making Biltrax Media what it is. I shall also take this opportunity to introduce you to our new Associate Editor, **Neha Tambe** who is also an architect by profession, with a Dual Masters in Urban Planning and Heritage Conservation from the University of Southern California.

NAVIN RAJPAL

Founder, Biltrax Construction Data

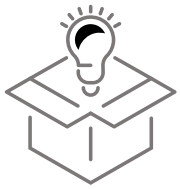
About BILTRAX MEDIA

Biltrax Media is owned & operated by Biltrax Construction Data. It chronicles architecture and construction with a focus on the role of data analytics, technology, engineering and government policies on design. It brings to the fore ideas and perspectives from a more rounded spectrum to delve deep into industries that play a huge role in the systems but are seldom spoken about in mainstream media.

TOPICS COVERED

PROJECT UPDATES

DESIGNS



PRODUCTS

INTERVIEWS

NEWS

INSIGHTS

TECHNOLOGY

RESOURCES

BILTRAX CONSTRUCTION DATA

Biltrax Construction Data is India's leading market intelligence platform focused on building construction industry.

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Fundermax
For you to create

orientbell tiles

EBARA

OZONE
FOR A SAFER WORLD

NITCO

And Many More...

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PROJECT UPDATES
JUNE 2021

461+ Total Projects

195+ Million - Sq. ft.
Construction Area

61,069+ INR-Crore
Construction Value

PRIVATE SECTOR PROJECTS

304+ Projects

136+ Million-Sq.ft.
Construction Area

39,231+ INR-Crore
Construction Value

PUBLIC SECTOR PROJECTS

157+ Projects

58+ Million-Sq.ft.
Construction Area

21,838+ INR-Crore
Construction Value

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June 2021, Issue 01
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LEADING PRODUCT INDUSTRY INNOVATIONS

Biltrax Media curates state-of-the-art developments in architecture, construction and infrastructural sectors.

UPVC DOUBLE-HUNG WINDOW

By Sudhakar Group

UPVC frames are efficient and durable, available in various colours.

EVMS SERIES PUMPS

By Ebara Machinery Pvt. Ltd.

EVMS Pumps are used for transfer and boosting of water.

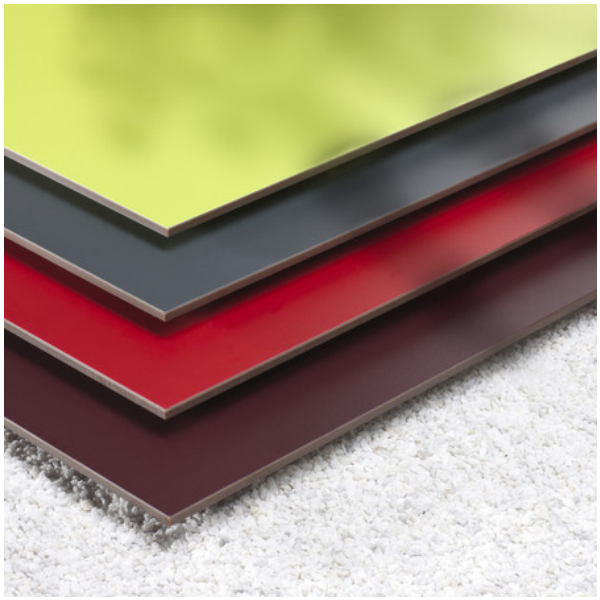
FAUCETS AND BATHROOM SINKS

By Kohler

Kohler presents a wide range of faucets, bathroom furniture, bathroom sinks, showering, toilets and accessories.

ANTI-BACTERIAL TILES
By Orient Bell

Orientbell Tiles is working towards enabling sustainable & better infrastructure in elementary schools in rural and urban areas. The tile is explored as an infrastructural aid.



FACADE PANELS
By FunderMax

Fundermax panels comes with an eye for long lasting and cost efficient quality.

NATURAL STONE AND MARBLE
By NITCO

NITCO offers cutting-edge designs and products in tiles, marble, and mosaic

GPL Design Studio

Anubhav Gupta

On development and future trajectories

By Shriti Das

"Development is our right but sustainable development is our responsibility." - Anubhav Gupta

CEO Vikhroli, Chief CSR and Sustainability Officer, Godrej Properties. Founder – GPL Design Studio.

> GPL is one of the very few real estate developers with a national presence and a number of projects in each of our zones of North, South, East and West of India.

What led to the formation of GPL Design Studio? What are the potentials that it sought to bridge and explore?

Design has always been empowered at Godrej Group and Godrej Properties is no different. About 7.5 years ago, we relooked at design across the company – its value proposition to our product, consumers, stakeholders, our brand, including connecting to the mother brand. On the operations side, we realized that our portfolio spanned services, asset classes and geographies across the country. In terms of design services – we looked at everything from master planning, urban design, architecture, interior design, landscape design, lighting design, sustainability, public art, place-making, way-finding signage, branding and graphic design. For asset classes, a high percentage of our portfolio was spread across residential developments while we also did sizeable projects in commercial, retail, hospitality and civic uses, particularly in larger townships.

We were one of the very few real estate developers with a national presence and a number of projects in each of our zones of North, South, East and West of India. Two key things happened due to this realization – we decided to strive harder to achieve GPL's aspiration to be a design-led company; and in order to bring the operations and the value proposition together, the design team restructured itself as the GPL Design Studio. These past 8.5 years we've got our hands dirty – sketching, ideating, collaborating and envisioning together with the best minds in the industry to deliver some of India's finest developments. The unique format of a creative Studio within a corporate environment allowed for us to bridge the gap between design and business by creating the ecosystem for design to be delivered in time, at costs aligned with the business plan and at a quality level that gives back to our mother brand.

What should be the core values and responsibilities of real-estate developers towards nation-building, cultural contribution and place-making?

Development is our right. But again, sustainable development is our responsibility. Indian cities are perhaps undergoing what the West experienced during the Industrial Revolution. Today, we have access to various learnings, advanced technology and communication, which our counterparts in the West lacked back then. In theory, we should be better equipped to handle traffic, congestion, pollution, exclusion and disparity, water, electricity, solid waste and sanitation etc. The trick for winning the development race against limited and rapidly diminishing resources lies in first recognizing the urgency of our problems and subsequently formulating viable mechanisms to share responsibility and accountability in implementing solutions. The brilliant thing about a good city is that it belongs to its people. It represents a collective of visions and models that should work for each citizen, family, community, cluster, neighbourhood, district and finally the entire metropolitan area and would benefit greatly from systems and a planned development approach.

There are a few critical urban principles that make a good city – Environmental sustainability; heritage conservation; accessibility/connectivity (infra, transportation etc.); identity/ spirit/ place-making; community; flexibility (growth and evolution); equity, institutional integrity and civic pride.

The trick for winning the development race against limited and rapidly diminishing resources lies in first recognizing the urgency of our problems and subsequently formulating viable mechanisms to share responsibility and accountability in implementing solutions.

Godrej Two in Vikhroli.

Our planning laws and policies in India are not as proactively geared to cater to vibrant urbanism, changing lifestyles, improving efficiencies, conserving resources, regulating development and encouraging smart growth. For example, on a project of 100 acres, planning laws may mandate 15% of social infrastructure defined by basic minimums. This is not usually adequate and the development could very easily run the risk of becoming homogenous and redundant. Hence the onus to think about all these issues in India largely falls on private developers. In our experience on large-scale projects, we typically start with formulating a robust program brief that brings together a diversity of mix, uses, building typologies, scales and urban experiences. Our mission is to create enduring places for people to live, learn, work and play. The various partners in question are identified early on. Our master planning exercise brings alive a flexible development framework with infrastructure and a taxonomy of buildings, blocks, streets, squares, parks, neighbourhoods, districts and so on. We do a fair amount of optioneering at the early stages to get this right. With the civic structure and urban design guidelines in place, we develop in detail each phase of our project. We ensure that our development framework is flexible enough to adjust for incremental changes as each phase takes shape.

The Imagine Studio at The Trees.

What was the brief for The Imagine Studio?

The Imagine Studio was our first adaptive reuse project and the brief was to envision the customer marketing journey for The Trees – our flagship mixed-use development on the site of an erstwhile soap factory. Industrial structures tend to be typically overlooked for their minimal functional architecture and modest use of construction and usage of materials. Form truly follows function here and rarely do they warrant a case for preservation especially in light of development pressures.

Our site had on it a small cluster of nondescript industrial buildings which we decided to save and transform into commemorative spaces seeped indelibly in the Godrej legacy and yet with an outlook for an invigorating future. The intent of the brief was to illustrate an engaged public realm as a microcosm of the master plan while preserving the site's verdant green character and Godrej Group's industrial heritage. Existing buildings and their elements were to be recycled/upcycled not only to underline their relevance in the bygone era but also to add meaning as important design punctuations in the narrative for the time to come. Programmatically, The Imagine Studio was to house a marketing office, sample flats, meeting spaces, a small café, as well as several vibrant outdoor spaces. The idea was to curate a set of real experiences that helped the customer understand and appreciate the 'Live, Learn, Work, Play' lifestyle of the project.

Being an in house creative Studio ourselves, a lot of the work on the brief understandably moved into architecture and urban design representation fairly early in the process. Selecting the right partner was key and we were glad to find Studio Lotus who not only received our brief and architectural ideas with great interest but also took them to the next level in collaboration with our teams to create what have today. Our partnership to develop the project together was so seamless that the distinctions between brief and design; consultant and client; simply disappeared which in our view is the best way to design and deliver meaningful projects.

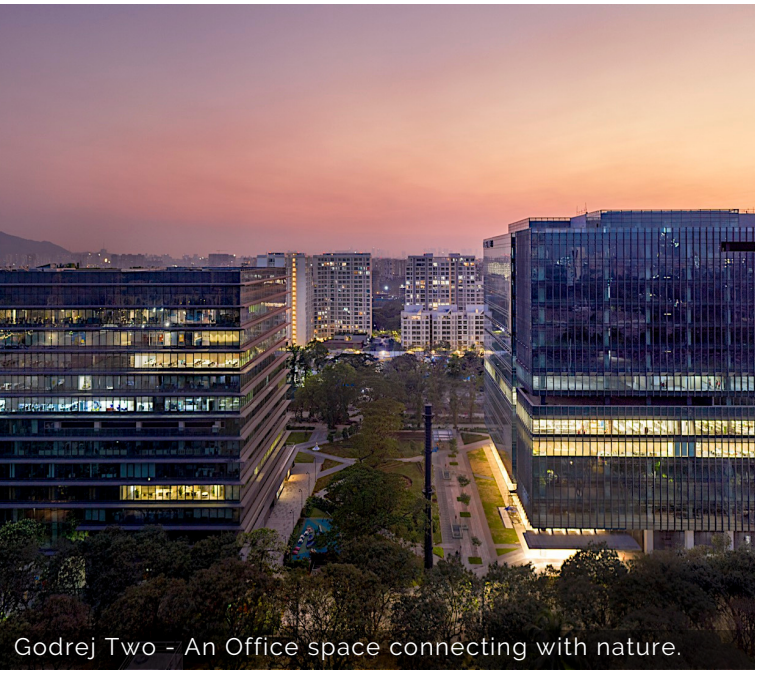
Tell us more about working with Studio Lotus on The Imagine Studio?

For us, The Imagine Studio has been a seamless, collaborative design and delivery exercise with Studio Lotus. Our value systems as creative professionals match closely. We believe in the power of strong and authentic narratives derived from the context that leads to the design inception and place-making to root the user to the project and its intended use. When we had surveyed the site for The Trees master plan, we had resolved to save maximum green cover and some old factory infrastructure as reminders of our rich industrial legacy. We wanted to repurpose these found objects with a view to root ourselves in our past legacy but adapt them to look towards the future.

As the master plan took shape, these objects discovered their meaning and became key place-makers bringing authenticity and provenance to our narrative. In the master plan, we fondly referred to them as the 'raisins in the raisin bread' – or these special moments that bring the true flavour of the context for celebration. The Imagine Studio was the first of these special buildings and also our first adaptive reuse project. We have also worked with Studio Lotus on The Club at the Trees – an amenity space organized as an interwoven collective of small buildings and installations inspired by the industrial character of an erstwhile soap factory on the site.

We believe in the power of strong and authentic narratives derived from the context that leads to the design inception and place-making to root the user to the project and its intended use.

The Club at The Trees.



Godrej Two - An Office space connecting with nature.

Real-estate development, large-scale commercial works and government projects often do not come under the purview of architectural discourse and critique (perhaps) in the mainstream media. How important is it to generate conversations around projects that are not as 'glamorous' or niche?

The world over, specifically in developed countries, there are both public and private enterprise mechanisms that engage various stakeholders who partake in large developments or city making projects for scrutiny, critique and appraisals as part of the public planning process. This engagement is key to not only bring all relevant interests for discussion and debate on the table but also to engender transparency and accountability of the impact of such projects on citizens and the city. Urban policy, regulation, property rights, conservation, equitability and market based instruments are often aligned for development between the public and private sectors through the voice of citizens in a design/development review or an open public hearing process for further progress. Such processes are not yet mainstream or commonplace in Indian cities.

Agencies such as Delhi Urban Art Commission (DUAC) and INTACH among others were set up (with specific scopes) as review bodies or advocacy groups in order to provide a voice for appraisals and critiques limited to the scope areas. These voices were limited to committee members as representatives of the public but not the public themselves directly. These agencies and their scope may not have evolved much like their western counterparts but they have helped to spur some debates on appraising relevant large scale projects. However, the need or demand for such platforms is now changing as both concerned citizens, design/development professionals and other interest groups are mobilising themselves to vocalise their concerns particularly on large scale interventions that stand to impact various stakeholders.

The proposed development of the Central Vista in Delhi is a good example where heated debates and petitions have been filed to present different views on the subject. Even if well-intentioned by its promoters, in the absence of a transparent planning mechanism that provides a voice to all stakeholders, this project has garnered adverse media attention making it more political than what development should be. Finally, the city represents its citizens and vice versa – a democratic process for stakeholder involvement to generate conversations, debate and even dissent is healthy in a regulated framework, that much like a progressive judicial system is geared towards quick resolution and decision making for further recommendation on the development and progress within given timeframes.

What are you currently working on?

We are looking forward to our first boutique hotel under construction, facing the mangroves and situated as the keystone of our vibrant mixed-use development at The Trees. For The Taj at The Trees, we have brought together a team of best-in-class international partners to help us design, engineer and deliver this landmark project. Our partners at Taj Hotels have been involved with us from the early stages of envisioning and developing this project. As the custodians of their iconic brand which is synonymous with international luxury and hospitality services, they are both the technical advisors and operators for the hotel. Our Godrej Group values and working styles are similar and we have found great results in coming together regularly for workshops, charrettes, ideation, knowledge sharing and shaping all aspects of the project with our design partners WATG and Conran & Partners. A luxury hotel with 150 rooms and 3 signature F&B outlets and extensive meeting/banqueting facilities, the Taj at The Trees is truly the jewel in the master plan. Our teams have explored and integrated several unique collaborations for this signature hotel like a Gin Bar and Distillery built on the roof top.

Another smaller but equally special collaboration is with our F&B partners, Social wherein we have jointly conceptualised a Beer Garden and Barbeque eatery. We have commenced construction on this adaptive reuse project and our creative and delivery teams are eagerly working hard to bring alive this vibrant F&B space shortly. This new facility dove tails nicely into the central landscape at the heart of The Trees masterplan which is being developed as a perhaps Mumbai's or the country's only public art and sculpture garden for the public and our community to enjoy.

When we envisioned our development at The Trees in Vikhroli, we were clear that we wanted to put both art and nature at the centre of our thinking for the wellbeing of all users – residents, office goers, hotel guests, retailers, F&B consumers, visitors etc. Today, we have Mr. Godrej's growing collection of handpicked public art and sculpture works including celebrated pieces by Anish Kapoor, Subodh Gupta, Manish Nai, Beverly Pepper, Neha Choksi, Amitesh Srivastava, Carol Bove among others as well as artifacts from our Group's history and rich legacy which can be discovered and enjoyed across most public areas of the entire masterplan and our buildings. For the central landscape, we felt that while art can certainly power the built environment, it can be incredibly therapeutic when blended with nature. Holistic living is all about sustainability, wellness and being one with nature. Natural settings or nature inherently allows for an observer to pause from the humdrum of daily life with awakened senses. For this public art and sculpture park measuring 2.5 acres, our creative teams have collaborated with James Corner Field Operations (JCFO) who designed the Highline in New York. In addition to the art, the park will also feature the development's own Miyawaki forest and a curated F&B facility housed in an earthy sculptural building which takes its cues from nature and the industrial legacy of the site.

Our verdant campus in Mumbai's green pin code of Vikhroli is ever evolving and outside the projects highlighted above at The Trees; we are also working on conceptualising the urban potential on other land parcels in the neighbourhood that will be released for nodal development in the near future. Much like the cutting-edge industrial township once created by the founders of the Godrej Group several decades ago, the vision for regeneration, building and transformation of Vikhroli by Mr. Pirojsha Godrej today is perhaps one of the most exciting opportunities in city making, that we may see in India.

Matharoo Associates

Gurjit Singh Matharoo

Crossing boundaries, breaking conventions and touching hearts

By Shriya Goyal

A Punjabi, born in the deserts of Rajasthan, (un)settled in the Mecca of Architecture – Ahmedabad, Gurjit Singh Matharoo is the founder of Matharoo Associates, a path-breaking architectural firm dealing with scales of projects ranging from 100 sq.ft. to 50 lakh sq.ft. Breaking boundaries and norms, Gurjit's work relies on tenets of natural light and ventilation, enhanced connection to nature, and the creation of a healthy and humane environment.

He is the third Indian architect after Pritzker Awardee Balkrishna Doshi and RIBA Gold Medallist Charles Correa to be inducted into the Premier International Fellowship of Royal Institute of British Architects (F'RIBA). Having won numerous national and international awards, Gurjit and his team focus on creating spaces for human betterment and engage themselves in the development of spatial design and extreme engineering.

With family in Rajasthan and training in Bhutan and Switzerland, what made you move and settle in Ahmedabad?

Yes! From the hills and the mountains to flat dry land! People are sometimes spoiled by choice and at times they choose to get spoilt. My schooling was in Ajmer and since Ahmedabad was close, I enrolled at CEPT to obtain my bachelor's degree in architecture in 1989. Immediately after graduation, I had a brief stint in Switzerland under the aegis of mentor Luigi Snozzi. I came back to Ahmedabad following an offer from our beloved Dean Kurula Varkey, to teach at my alma mater, which made me stay here and establish my own firm 'Matharoo Associates'. We began with a cycle, two drawing boards and a 9' x 9' cubicle overlooking the river Sabarmati. Looking back, it hasn't turned out too bad for us.

> In all our projects the structural members are integrated with the architectural design to avoid unsightly beams and other elements that require concealment later using claddings, false-ceilings or other façade finishes.

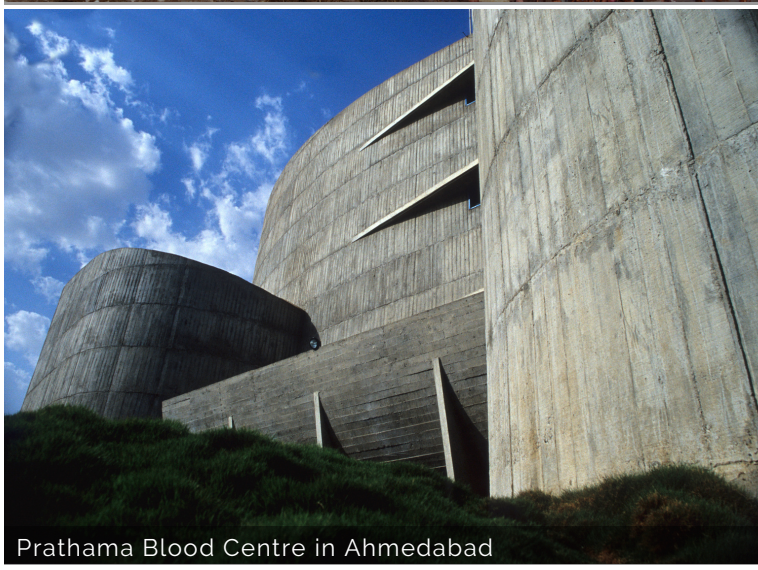
How did competitions benefit you as an architect and as a firm?

Competitions are forums where one can express freely and put their nascent ideas forth. Our practice was established in a city where we had no previous background, hence competitions became the only way of acquiring projects. While a number of competitions we won such as the 'Haria Club and Resort', Vapi, 'Jain Vishwa Bharati University' and the 'Offices of the Gujarat Municipal Finance Board', Gandhinagar, did not get built, the 'Prathama Blood Centre', Ahmedabad and 'Ashwinikumar Crematorium', Surat got constructed. This marked the beginning of our foray into public and institutional projects, and we often call them our 'life-and-death' ventures.

The blood centre was designed as a lounge for donors and not a mere medical facility building and the crematorium a large public place, which had to be constructed while the cremations continued through the construction process. This added a challenge to already complex mechanisms – blood flow and ritualistic incorporations respectively. Both these projects won national and international awards and emerged as a testimony that we met all challenges successfully.

The recently completed corporate headquarters for CREDAI (Confederation of Real Estate Developers Association of India) in Ahmedabad was also won through an invited competition. The brief intended to contain workspaces and an intent to bridge the gap between the Real Estate developers and the society at large. In order to fulfil the requirement of being a public space for exhibitions and events, the giant walls of the 3-storey building slide and pivot out to render the otherwise closed building entirely open to the public. This duality of function, for the price of one, is also an important step in optimisation of costs.


Ashwinikumar Crematorium in Surat


Prathama Blood Centre in Ahmedabad


Headquarters of CREDAI in Ahmedabad


Embers and Ash in Ahmedabad

The Ajmer temple signifies the interpretation of religion.

In the Biennale project you focused on the structure as a main component such that a smaller space is perceived bigger. Can you elaborate on the project? What are your thoughts on the role and importance of structure in a building?

We were invited to the 2018 Venice Biennale themed 'Freespace' by Curators and Pritzker Winners Grafton Architects. Our installation was derived from a residence in India designed on a tight plot within a dense urban setting, making it imperative to use internal courtyards and techniques that would make spaces appear much larger and playful, than their mere functional footprint would allow. The structural members are employed beyond staid load-bearing members, and they cut, fold and bend into abstract planes to dissolve thresholds, connect inside-outside into one and create delight.

In all our projects the structural members are integrated with the architectural design to avoid unsightly beams and other elements that require concealment later using claddings, false-ceilings or other façade finishes.

In all our projects the structural members are integrated with the architectural design to avoid unsightly beams and other elements that require concealment later using claddings, false-ceilings or other façade finishes. We design such that the structure itself becomes the building envelope, and is optimized to its maximum capacity. As a bonus, it reduces the cost of the building considerably.

The 'Net House' in Ahmedabad.

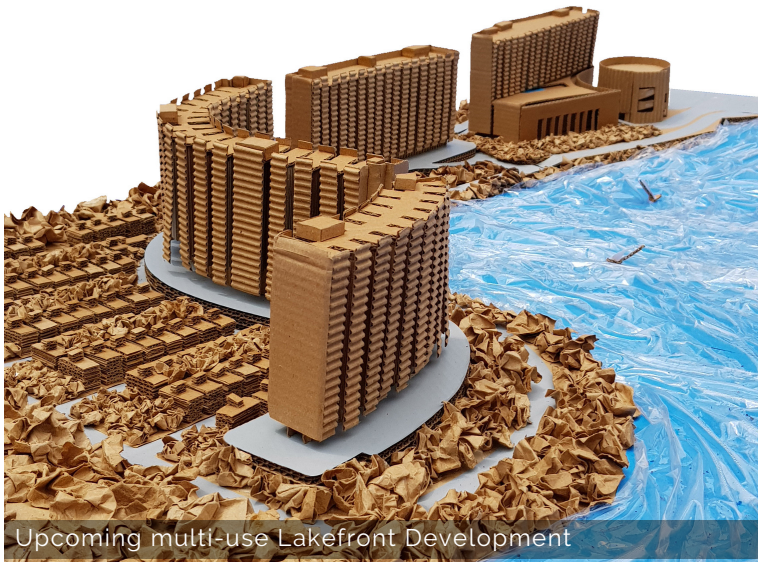
A basalt masonry retreat in Raigad.

The design of Mobile blood donation vans 'Cattiva' and all its equipment and chairs require a detailed application. Can you elaborate on the same?

Cattiva was a socially driven project where the team intended changing the prevalent norm of 'Blood only through Replacement' to 'Voluntary Blood Donations'. Easier said than done, as it required healthy donors to be attracted to the idea of donating blood on a regular basis, that a regular ambulance type donor van could never achieve.

The van derives its name from the term 'Cattiva' in Italian, and translates to 'A mean woman' – who lures her prey and sucks them dry (pun intended). Automobile design is my hobby, I enjoy resolving all technicalities and hardships that come in the way of a well packaged functional and sensuous solution. In the case of Cattiva, it serves a major social cause.

The 'Cattiva' mobile blood collection van



Upcoming multi-use Lakefront Development

What are the future trajectories in terms of upcoming projects, research undertaken and initiatives taken?

Currently a 35-acre township with over 3500 units is being built on a lakefront in Hyderabad, under the aegis of a government initiative PMAY (Pradhan Mantri Awas Yojana) that benefits the buyer and the builder. A commercially driven project has extreme constraints to maximize areas, minimize costs and keep it within the affordable sections. Yet all spaces within the 30, 45 and 60 sqm units are naturally lit and cross-ventilated with a generous living-dining space that terminates in a mammoth balcony with either lake or garden views, maximizing provisions and enhancing the quality of life. Aside from social spaces created high up at various levels, the scheme includes a Mall, a place for Conventions, Cinema theatres and other recreational facilities, not to mention a 5 acre forested area that all can be part of.

Also in progress are two Gurudwaras in Lakhpat (Kutch) and Dwarka (Saurashtra) financed by the Gujarat state government. It includes preservation of monuments, and a heritage center consisting of the gurdwara (Sikh shrine), an interpretation center, Sarai (accommodation complex) and Langar halls (Community Kitchen). Being projects of high heritage value (Lakhpat is a UNESCO protected monument) extreme care is taken to build the same with locally available materials and techniques in the most sustainable of ways.

'images Publishing', Melbourne published a Monograph 'Matharoo Associates, Architectural Practice in India' by Philip Jodido, Lausanne showcasing the journey of Matharoo Associates with project archives, drawings and writings.

ALOK AGARWAL

CMO, ORIENT BELL LIMITED

Nation building and cultural contribution

Orient Bell Limited is recognized as a leading manufacturer of tiles in India with a total production capacity of 30 million square meters annually. With impressive statistics and a comprehensive range of tiles, Orient Bell is at the forefront of industry innovations and nation-building. While this forefront showcases the immense value that it offers to the design and construction industry, their larger goal focuses on many nuances that define the country. These encompass a diverse spectrum – from Indian arts and crafts to working at the grassroots to digitizing its products and services.

Biltrax Media spoke to Alok Agrawal, Chief Marketing Officer, Orient Bell Limited about these undertakings and their role in not only progressing the nation but also addressing concerns faced by the construction industry.

Sanskriti Range of tiles reflects India's diverse culture

Anti-viral Tiles kill 99% of mRNA viruses in 2 hours.

Germ free tiles are available in various finishes, colours and patterns

School/Infrastructural tiles with surface double as whiteboards for writing or as murals with educational content printed on them.

A brand is identified by the products, service and merchandise that it offers. Tiles are often perceived as cladding or an aesthetic finish to floors and walls. But undertakings by Orient Bell Limited have redefined possibilities with the humble tile.

Their latest offering is the Anti-viral Tiles that restrict spread of viruses on the surface and kill beyond 99% of viruses in 2 hours. Its predecessor is the Germ Free Tile launched in June 2020. While these tiles are available in various finishes, colours and patterns, it is interesting to note that Orient Bell devised the products in the wake of the given times of a pandemic-ridden world. While innovating in accordance with changing times is crucial, Alok Agrawal emphasises, "We have a holistic solution-approach to things, issues and challenges."

Orient Bell is investing in a larger goal of simplifying the Tile Purchase journey in the construction industry. Alok Agrawal explains, "Selecting a tile feels so over-whelming and complicated to the average customers, we believe that making things transparent and simple for architects, builders and designers will go a long way on growing this category." You can even find a tile similar to any image from the internet without rummaging through physical catalogues.

In addition, Orientbell Tiles is working towards enabling sustainable & better infrastructure in elementary schools in rural and urban areas. The tile is explored as an infrastructural aid. OBL has installed tiles whose surface double as whiteboards for writing OR as murals with educational content printed on them. The murals infuse a cheerful vibe in schools alongside aiding education, while the tiles are as functional as ever.

From cultural significances to building infrastructure in remote areas to creating immersive digital experiences, Orient Bell encompasses diverse aspirations and goals by virtue of the tile. With lofty ideas and efficient execution, Orient Bell Limited is bound to create interventions for furthering progress, tile by tile.

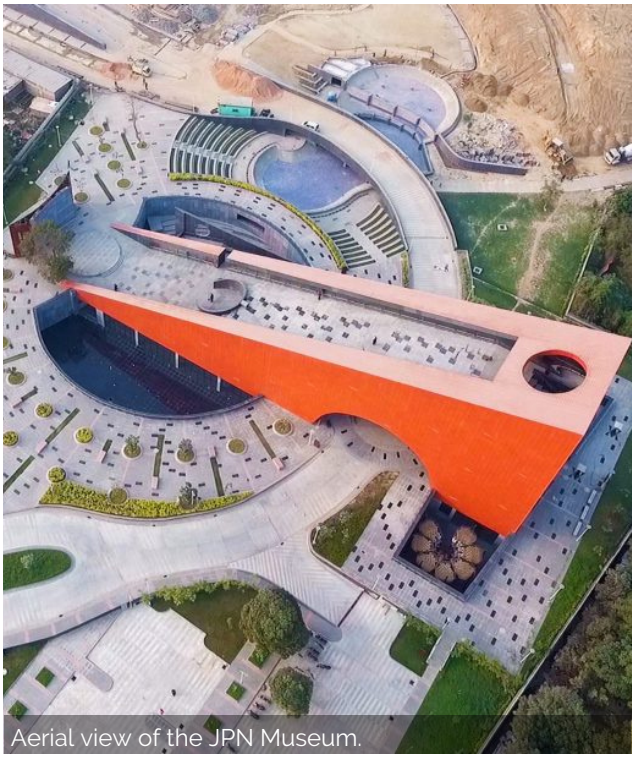
orientbell tiles

Archohm

Museum of Socialism and Jayaprakash Narayan International Center

In Deliberate Juxtaposition

The Jaya Prakash Narayan International and Interpretation Centers in juxtaposition. Image Courtesy: Noughts & Crosses LLP.



Aerial view of the JPN Museum.

By Twinkle Tolani

The Museum of Socialism acts as a gateway to a bigger project called Jayaprakash Narayan International Center – an extension of the Ram Lohia Mandir Park. Completed in 2016, the museum has been widely appreciated for its overall approach.

The Jayaprakash Narayan International is an attempt to create a premise inspired by the life of the renowned socialist – Jayaprakash Narayan. The museum and a convention center aim to be an international representation of the timelessness and plurality of Indian architecture and culture in Lucknow.

The Museum of Socialism, completed in 2016, has been widely featured on various media platforms. The haunting presence of Jayaprakash Narayan's simplicity in the museum's design is the prime reason for the attention it has received. Right from the warm yet austere terracotta to employing platonic volumes to induce clarity into the experience of the space, numerous elements capture the essence of his character. The play of levels and natural light weave together the inspiration and the purpose of the museum.

The terracotta skin of the building facilitates proper air-flow and ventilation through perforations in the tiles. Thermal comfort and noise exemption are achieved by filling rock-wool between the dry-cladding and true wall. A visitor's journey inside the museum will be a contrast to their impression of the outside. On one hand ramps, staircases, and steps allow them to experience variety in volume and space, while on the other, the variation between dimly lit galleries and light-flooded common areas gives their experience a dramatic touch.

Archohm further reveals," The wedge-shaped facade of the museum is of the same shape and size carved out from the mass of the ongoing International Centre building. It diagrammatically represents the triad of tenets of Jayaprakash Narayan's socialism: freedom, equality, and brotherhood, celebrated and etched in multiple languages on the terracotta panels spelling the power of the unitary even as a part of the whole." The void in the interpretation center pushes the limits of the structural design and acts as a gateway.


The play of light inside the interpretation center.


Galleries inside the Interpretation center.


Theatre inside the Interpretation center.

The international center has an institutional identity, reflecting the polarised views of civic authorities, curators, historians, and the general public. The building – the parts and the whole do their best to communicate the essence of the International Centre which is about the idea of socialism and about the visionary – Jayaprakash Narayan. The Museum of Socialism, on the other hand, symbolizes J P Narayan's Spirit and leadership that brought people together, changing the political demographic in the country in the mid-1970s. The landscape is an important binder between the two buildings. Numerous pause points and gathering spaces help merge the character of the buildings. Spaces like an amphitheater and open-air theatre, further seal the democratic nature of the premise. Situated amongst an urban forest, the project with its green spaces and vistas of Ram Lohia Park acts a retreat from the hustle-bustle of city life.

While the Jayaprakash Narayan Interpretation Centre is built on the idea of creating public architecture whose design endows a contemporary value to past events, the Museum of Socialism is a symbolic anchor point of a plaza open to people – making it an important urban node. "The museum's design and architecture take responsibility for enticing and engaging visitors while the interpretation center's scale is one that leaves them in awe. Both architectural gestures are cohesive yet individual in their respective ways", states Archohm. The complex is positioned on a site that offers the citizens of Lucknow, multiple choices of leisure, business, recreation, and sports in the International Convention Centre. Together they take their place on the land, defining an important node and generating the matrix around.

Wallmakers

Pirouette House

Inspiration, experimentation and endeavours

The Pirouette House by Wallmakers. Image Courtesy: Jino Sam.

The main entrance with porch.

By Shriya Goyal

'The Pirouette House', a brick residence in Trivandrum is Designed and constructed by Kerala-based firm Wallmakers. This single-family residence, is created from bricks and local craft. It combines technology and local sensibilities to make structures that are pragmatic yet captivating.

> Wallmakers unveil a buoyant and lustrous design with fired bricks and geometric walls that is dynamic and awe-striking.

A peek into the 196 sq. mt. residence reveals a multifaceted facade that whirls and drapes a two-storey house. Punctuated by three levels of concrete, the Pirouette House is aptly titled so. A symphony in brick and functionality, the residence is an endeavor towards Baker's eminent practices, simple and true to context. The design is an adaptation of the rat trap bond developed by Laurie Baker.

Nestled in the centre of a congested locale in Trivandrum, the patch of land was stifled by neighbouring buildings. The residence was devised with an "inward" layout. The spaces converged into a central courtyard with openings in the east-west direction for cross-ventilation. The house comprises the 'rat-trap bond' masonry technique where bricks are laid out in a vertical orientation creating a cavity within the wall. This method conceals the structural members and service ducts. "The rat-trap bond masonry is no different in terms of ease of construction in comparison to the commonly used masonry. It has fewer brick courses and cuts down the cost by around 30%" cites Vinu Daniel, the founder of Wallmakers. This construction method further allowed building slant walls to move left to right, uniting to support the ferrocement shell roof. The dancing walls reduced space deficiency and aimed towards creating larger volumes and a sense of intimacy.

Wallmakers acknowledged the dying industry of brick kilns in Trivandrum and supported this local agriculture-based industry on the verge of extinction.


Brick wall with staggering courses.


The courtyard with staircase.


Terrace-balcony on the first floor.

First Floor bedroom.

Cane used for grillwork in dining area.

Cane furniture in the living room.

The Pirouette House has promoted native techniques, application of local materials and waste and boosted the scope of available resources. The site lacked the feasibility of soil excavation and production of mud blocks. With the onset of wire-cut machine made bricks, Wallmakers acknowledged the dying industry of brick kilns in Trivandrum and supported this local agriculture-based industry on the verge of extinction. Vinu says "Our masons from Tamil Nadu, were already experts in working with mud blocks and adapted their techniques soon enough to work with the country fired bricks. Each course was placed with the help of guiding threads and course drawings."

Demonstrating and defining the brick courses to the masons, the team of architects fabricated cavity walls that optimized thermal efficiency and reduced the number of blocks. The intelligent reuse of the scaffolding pipes and wooden planks added to the austerity. This building waste procured, was used for the central staircase and grillwork, and the planks were segmented as a part of the flooring in the common areas. Cane, another local material was used for interesting articles of furniture, along with being treated and encased around grillwork acting as partial subtle screens.

The undulating brickwork defines The Pirouette House, as an icon in Trivandrum. It is the fruit of a collaborative process of building between the team of architects and masons. This organic structure with flowing walls stands out from its neighbouring houses and is a commitment to the cause of sustainability. This house by Wallmakers has redefined homes in India, with its domestic and native materials, ground-breaking design and provision of a more contemporary approach for residential designs.





Providing India superior Pumping Systems

Ebara Corporation, established in 1912, is a sizable Japan-based centrifugal pump manufacturer. Their product range covers applications related to clean water, wastewater, chemicals, oil, and gas. A subsidiary of Ebara Corporation – Ebara Machinery India Pvt Limited – brings the Japanese technology to India. It offers efficient pumping solutions and services. Ebara Machinery India Private Limited aspires to be the most revered, one-stop destination for pumps in India.

Despite being a country with a large number of water-bodies and fresh-water sources, India faces enormous challenges with its water crisis. Ebara offers a wide range of pumps to process water into clean drinking water. The Ebara Booster set, is a system ideal for high-rise buildings. It can come with single, multiple, or no VFD (Varied Frequency Drives). The systems that do come with VFD, have quite a few customer-friendly features. Series 3M, another system with the same purpose, has a 100% stainless-steel pump. The pump has a one-of-a-kind casing manufactured by a hydroforming process, which is a patented technology.

Next in line, the EVMS pumps are designed to process water into potable water, keeping in mind the industrial sector. While this pump is a vertical multistage pump that comes with a unique hurricane impeller, the Matrix pump is a horizontal multistage pump. Ebara's portfolio also has a wide range of pumps and systems for wastewater treatment. The D and DW series are superior quality drainage pumps in this range. While both are submersible pumps for wastewater & sewage, the DW series is made of stainless steel.

Given Ebara's core competencies in water management, energy productions, and environmental solutions globally enable communities towards sustainable development. Supplying the world with efficient and dependable pumps, Ebara plays a crucial role in optimising water and its resources in a responsible manner creating a benchmark for in its league.

EBARA

Sfera Blu Architects

Sangam Elementary School

The architecture of optimal learning environments

Sangam Elementary School by Sfera Blu Architects. Image Courtesy: Umang Shah Photography.

The roof designed as a race-course for the kids.

By Sakshi Agrawal

"In order to design an elementary school, the first and foremost principle is simple – It needs to be Fun," says Naman Shah from Sfera Blu Architects. Sangam Elementary School incorporates fun child development frameworks for the young, excited, noisy and playful audience. The design is focused on establishing an entity for students, where the built space and environment together becomes a successful tool for learning.

Spread across 2612 square meters, Sangam Elementary School in Bhilwara, Rajasthan emulates multiple Indian mythological stories that illustrate the idea of "teaching under the trees in open surroundings." The concept of education being conducted in open spaces holds great significance in current times given the evident disconnect between city-dwellers and their natural surroundings. Outlining the same, Naman says, "An entire generation of urban dwellers have missed out on street games. The built forms need to incorporate this missing element. We were inspired by this concept as it helps children connect with nature. It is a wonderful way to learn various life skills, and presents an opportunity for kids to run, jump, slide, make a mess and explore themselves in informal ways." Built for three- to seven-year-old kids, the idea was to create a space such that the thought of going to school would bring a smile on their faces!

The form of the building has multiple punctures inspired by a triangular cheese sliver with tiny holes on its sides as seen in cartoons. The exterior facade has numerous tiny window panels to maintain visual connectivity with nature and the surroundings. The size of the windows is small to ensure safety and positioning is driven by the height of the students. The students get a view of the outside while sitting at their desks.

The building is a three-storeyed structure. Each floor is staggered which creates small planters and generates an organic form of the structure. The built form is taller on the south side, thereby blocking direct sunlight. It is highly perforated and has two courtyards which permit filtered daylight to seep into the corridors. The courtyards also provide porosity to the built-form, help reduce the heat gain and provide efficient air circulation in the building. With the air and diffused light that enter from the top, the inner portion of the building remains cool and well-lit. The roof has a natural garden which insulates the building from the top. The shape and volume of the classrooms are organic, unlike the usual rectangular classrooms. The double height spaces are converted into multi-purpose mezzanine spaces for the kids to play, relax and unwind.


The three storeyed built form is connected to nature.


The window sizes ensure safety for students.

> If the student loves the place of learning, then knowledge will find its way. The students of this school want to stay in school for as long as possible and so I feel this is something we have achieved.

Gone are the times when buildings and landscape were separate entities. Naman explains how contemporary schools need to blend with nature. "The slopes gave rise to double height volumes, which gave rise to mezzanines inside the classrooms. These additional spaces provide room for multipurpose activities which otherwise require additional rooms. All the activities which cannot be done indoors have found space either in the margin or on the rooftop."

"The site area versus the brief gave little room for games and play area except the margin around the built form. This gave us the idea to use the roof," explains Naman emphasizing the idea of the roof-top jungle. The first slope has two huge custom-made slides; the second slope, which is the longest slope in the building, has obstacle courses; and the third slope, which has enough sunlight, has planters, one kitchen garden for each class to grow their own vegetables and flowers. This creates a special bond between the children and the nature around them. The topmost part of the roof has a jungle gym where they climb and swing with a view of the entire city beyond. The building follows Vastu-Shastra principles and thus the highest point and lowest point of the structure was pre-decided which gave rise to multiple slopes.

HANA GLASS PARTITIONING SYSTEMS

Versatile and Timesparing Solution from Ozone India

Ever since the industrial revolution, the graph of usage of glass in architecture has been a never-declining curve. Today, with 'transparency' being the center of all contemporary designs, glass has become omnipresent, and glass partitions have become indispensable. This very indispensability makes it subject to constant improvements and changes to fit ongoing design trends. Ozone India is one of the leading providers of architectural hardware solutions in India that introduces Hana Partitioning Systems. These are demountable glass partition solutions for offices, hotels, hospitals, and other commercial spaces.

Hana glass partitioning systems are designed to complement contemporary architectural and interior trends. The partitions are easy to install, and give a clean, transparent, and finished look. The range includes glass swing door solutions, glass sliding door solutions, glass sleek sliding solutions, and shower sliding solutions.

This partition system's engineering uses slim aluminum extruded profiles. These profiles are light-weight, have good workability, low maintenance, and are thoughtfully designed, such that they can be used with different hardware derivatives from the wide range of Ozone Glass Hardware. This feature not only makes the partitioning system versatile but also adaptive and reliable. It enables new mechanisms to be used in prevalent, trusted designs.

The Hana glass door partitioning systems are compatible with 10mm and 12mm thick toughened glass that has a weighing range between 45 kilograms to 100 kilograms. Partitions of up to 3000mm in height, including door configuration with over panel and sidelight, can be catered to under this range. The Hana Shower Partition system is suitable for 8mm toughened glass, given it has to be used to create a shower partition of up to 2000mm in height. The Hana Partition system offers two variants in finishes: AN (Aluminium Anodized) and BM (Black Matt). The hardware finishes can be chosen from – AN, SSS (Stainless Steel), or BM finishes. These choices can be used to create a color-coordinated and elegant-looking partition or cubicle.

Ozone India is no novice in the field of architectural hardware. All the products under Ozone's umbrella are subject to strict quality checks at all stages in their manufacturing process. Along with quality, Ozone aims at providing the best possible aesthetics and mechanisms integrated into their products. The company does not take the trust of its clients for granted and still strives to improve with every range and product. With the same aspiration, Ozone has introduced HaNa partition systems as a comprehensive variant that caters to the needs of a design and its designer.

OZONE®
FOR A SAFER WORLD

Designed by Reima and Raili Pietilä, Restored by ALA Architects

Embassy of Finland

An assemblage of the two countries through an artistic marvel

The Embassy of Finland restored by ALA Architects. Image Courtesy: Tuomas Uusheimo.

Entry of Embassy of Finland located in New Delhi.

By Shriya Goyal

> The marquees are both haven from rain and sunshine and an emblem for Finnish landscape, imbued by parallel ridges and fragmented coastlines.

A masterpiece of Finnish architecture, the Embassy of Finland in New Delhi identifies as an archetype of Finland in India. Designed by architects Reima and Raili Pietilä, the Embassy underwent restoration from 2013-2018, commenced upon by ALA Architects. They revamped and brought back the lost grandeur of the project, emphasising the genesis of the design. Scaling the trajectory from 1963 to the current century, the article embarks upon the story of the Embassy and how it turned out to be what it is today.

Reminiscing the art of winter, snowy massifs and the lagoons that nature carves into ice, the Embassy of Finland metaphors the Himalayas and the snow-clad lake Kitkajärvi in Northern Finland. Known for it's high quality design across the globe, Finnish design has a minimalist aesthetic which is pervasive in the Finnish Embassy. Titled "Snow speaks on the mountains", the Embassy is an oeuvre of Finnish architecture representing both countries.

The Past

The journey began in 1963 when Reima and Raili Pietilä won the competition to design the Finnish Embassy. It was to be located in the diplomatic enclave in Chanakyapuri, New Delhi. Commissioned in 1980, the project was redesigned to the original concept of low rise pavilions spanned by folded concrete slabs. These marquees are both a haven from rain and sunshine and an emblem for Finnish landscape, imbued by parallel ridges and fragmented coastlines. The Embassy opened in 1986, with the vast single stretch of the roof, present in the original competition entry, now segregated into six distinct lateral buildings around a central garden area. The facades are made of natural sandstone tiles, white plastered bricks and white painted concrete with wooden parts of oiled teak, creating an association to local building traditions.

ALA Architects refurbished and retrofitted all new technical system's installations in the buildings, with respect to the original design, all the existing roofs were repaired and enhanced to retain the master look of the roofs.

Natural sandstone facade with white plastered bricks.

Security entrance to the Embassy.

Safety advancements added to the compound.

The restored Sauna.

The Present

In 2013 ALA Architects were entrusted with the renovation of the Finnish Embassy, to bring the building complex back to its magnificence. The aim of the project was to restore the original character of the design, maintenance of the interior and outdoor spaces, improving the occupational well-being and living conditions of the staff members, the overall safety, along with the energy efficiency and functionality of the buildings, taking in account the harsh climatic conditions and air pollution in the area. Some climate-specific revisions were made to the plant selection and minor safety requirement advancements to the compound.

A staff apartment building was transformed and new gatehouses, a gazebo and a small gym were constructed. The chancery, the ambassador's residence, the technical center, sauna, residential buildings, the pool and an old gatehouse were restored. ALA Architects refurbished and retrofitted all new technical system's installations in the buildings, with respect to the original design, all the existing roofs were repaired and enhanced to retain the master look of the roofs.

The restored interior spaces.

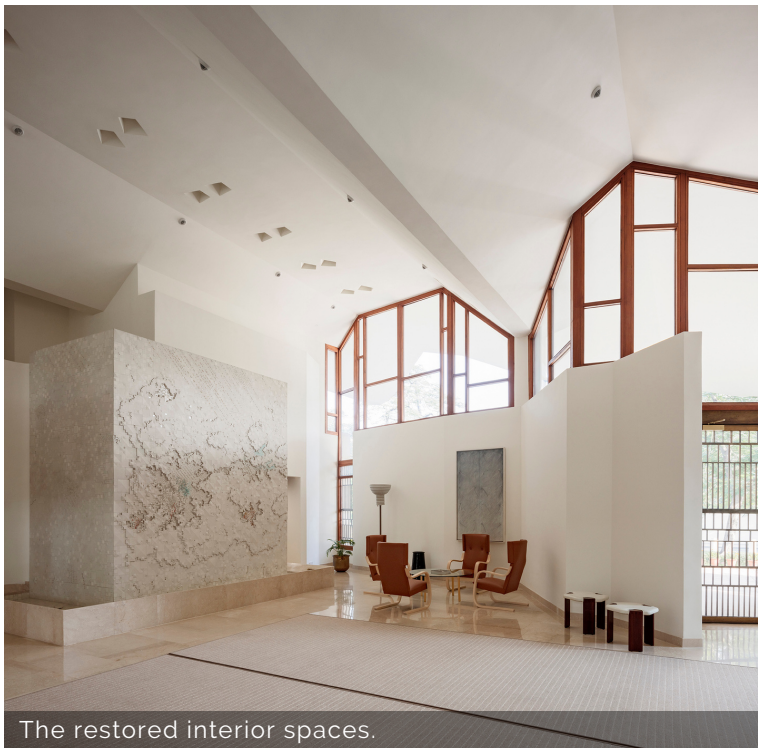
With a thorough study of the original design, they drafted precise and detailed drawings and specifications along with structural, mechanical and electrical engineers. Travelling between Helsinki and New Delhi, they inspected the construction sites, instructed contractors and discussed with the locals. With a time period of 5 years, regular site inspections, and communication via email, drawings and specifications the Embassy restoration was completed in 2018. The local architects on ground, both in the 1980s, as well as in 2013 were C.P. Kukreja Architects.

Shaping a Finnish landmark, Reima and Raili Pietilä have built an abstract design capturing the combination of Lake Kitkajärvi in Northern Finland and the Himalayas in Northern India, binding the two countries through an architectural uniqueness. The Finnish Embassy is cited as one of the most beautiful embassies in New Delhi. Reviving and restoring this masterpiece ALA Architects undertook the renovation project, bringing back the glory of the original design and honoring the Embassy of Finland.


The Embassy design consisted of landscaping all around.


The restored swimming pool.


The restored and enlarged residential space.

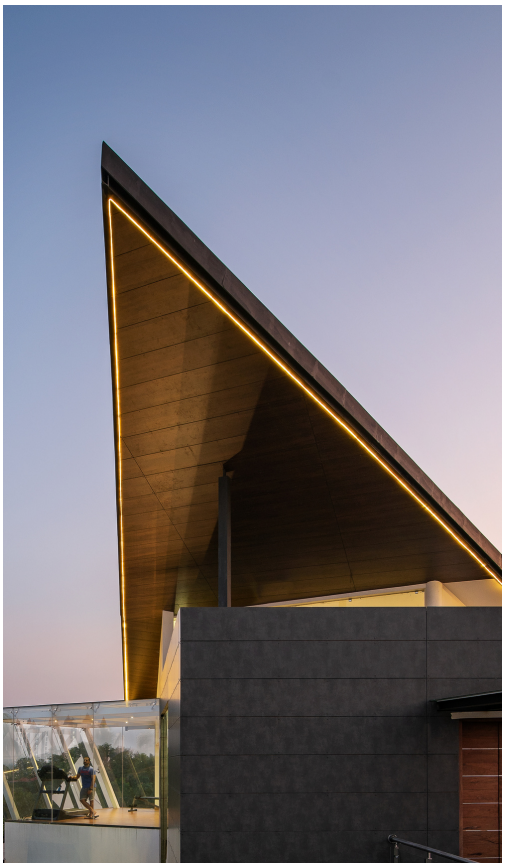

The restored interior spaces.

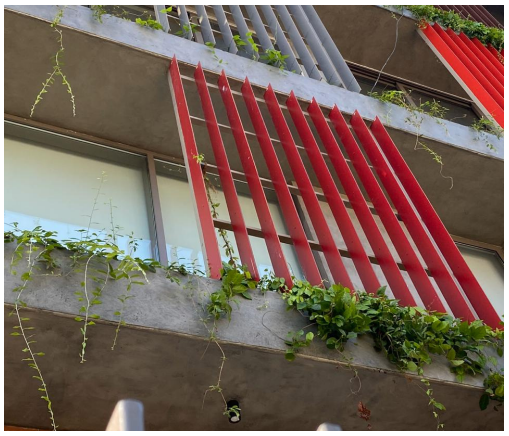
FUNDERMAX

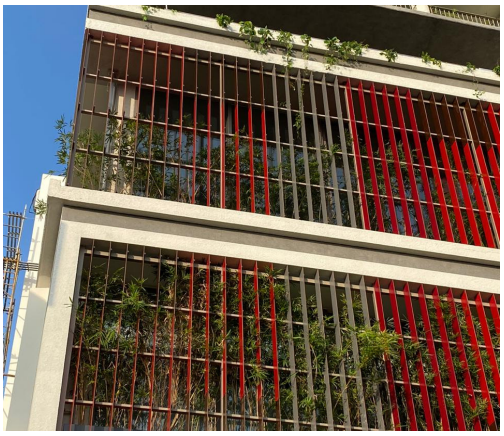
Giving buildings a character with a unique and vast material palette

Established in 1890, the Austria based company, Fundermax is the purveyor of exterior and interior decor solutions notably exterior panels, cladding and facades. Furniture, facades or interior fittings, the company is at the interface between ideas and materials as a production facility in Austria, a service partner and a design laboratory. Fundermax deals in high-pressure laminates and other products used in the building and construction industry predominantly. The company is headquartered in Bengaluru in India. Biltrax Media unfolds their motto "Giving buildings a character with a unique and vast material palette" by citing their several products used across different projects.

Every creation uses shape, colour and materials to convey emotions and describe characters. Fundermax decor comes in a wide range of materials, textures and tones with an eye for long lasting and cost efficient quality.







Private Residence on the hills of Kakkanad

A residence was designed by Manoj Kumar, Illusions in the swathes of greenery on the top of Kakkanad hills in Kochi. The 13-cent uneven plot had to be transformed into a modern and contemporary home. The planning was crafted around the theme Biophilia. Prado agate grey Fundermax panels on the facade lent a visual touch of softness and supported the monochromatic theme of the angular and cuboid structure of the building. The angular roof became the captivating element of design with the amazon Fundermax panels rendering colour variety, machinability and texture. The roof signified soaring ambitions, love for nature and passion for path-breaking design.

NITTE – School of Architecture

A school of architecture in Bangalore designed by Ar. Dinesh Verma, ACE Group Architects to encourage students to think differently. The corner facade accented as a pylon was the highlight of the building. Built on the concept of eco-friendly architecture, the architect designed a traditional shade-louver with wooden detailing and contemporary materials. The facade was a combination of traditional wooden elements, mild steel and glass. The tyrol pine Fundermax panels were sawed to the facade with fabricated cleats to wrap the panels around steel sections, hence supporting louvers.

Biju Commercial - A clinic

A skeletal building transformed into a modern clinic designed by Sebastian Jose, Silpi architects in Kochi. An ordinary two-storeyed warehouse had to be reshaped into a four-storeyed building with a vast terrace, suitable and presentable for a clinic. Prado brown, pastel grey and dark red narrow Fundermax panels were provided as screening to ingress the sunlight. The louvers acted as a second skin to provide insulation to the building, also the bright colours of the panels gave the building a fresh inviting look.

Auspacious Convention Center

A convention centre in Hyderabad designed by Ar. Srinivas Rao, F6 Architects broke all rules in creating a public space that is sophisticated, stands-out, and yet accessible to traditional audiences. The prado alu grey Fundermax panels were finalised for the exterior facade that covered 30% of the building surface. The facade merged seamlessly with concrete and stone and infused a plush character to the structure. The place speaks to the millennial generation without alienating the tradition-seeking audience.

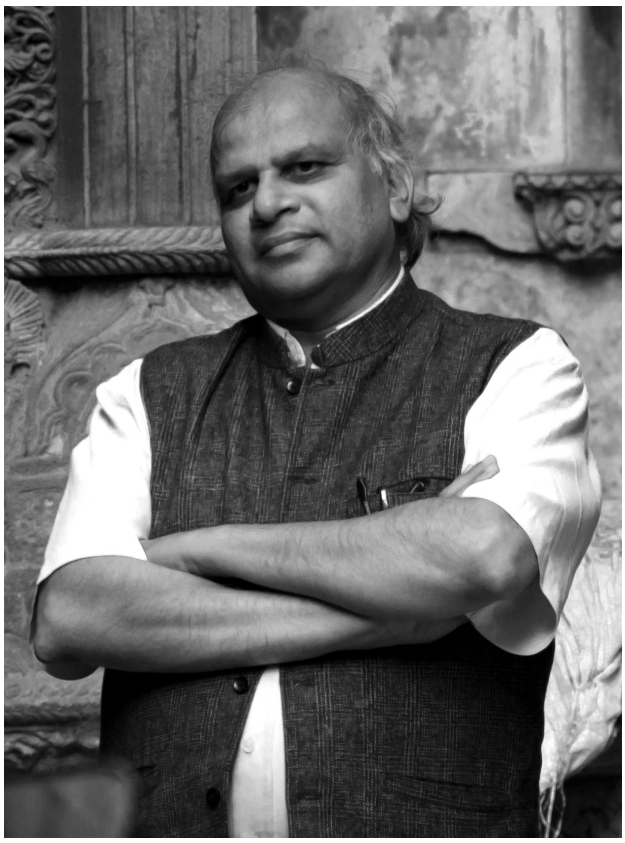
Fundermax

For you to create

Footprints E.A.R.T.H

Yatin Pandya

A conscious effort towards environment and social responsibility



By Shriya Goyal

A fusion of an author, activist, academician, researcher and an architect, Yatin Pandya champions the beauty of sustainability, context centric design approach and addressing environmental issues. Ahmedabad-based Yatin Pandya, founder of Footprints E.A.R.T.H (Environment Architecture Research Technology Housing) is a recipient of 30 national and international awards and the author of several books and articles on architecture. He has been involved with city planning, urban design, mass housing, architecture, interior design, product design as well as conservation projects. He discusses the firm's ventures towards engaging socio-culturally responsive and environmentally sustaining design philosophies as key principles of their work.

"The misconception is that tradition is anti-modern. If we can piggy back on tradition as contemporary, it can still become a positive solution" Can you elaborate on the same?

We need to clarify the difference between History and Tradition. History remains to be the dead tradition while tradition remains to be the living history. Obsolete things become the fossilised past, whereas things that sustain with the changing times and circumstances even in present times are termed contemporary. So in a sense tradition is not only contemporary, but has sustained through the test of time to be seen as the eternal ethos. It is not about the time, era or the age but about its prolonged relevance over time. In present times, tradition measures up on the performance criteria, not as reminiscence of the bygone era. Emerged from the past and sustained through present, tradition remains an apt demonstration of timeless aesthetics.

The other performance criteria is environmental sustainability. Emerged from the times with no electricity and dependence on gadgetry, it invested and evolved the built form that would create comfort conditions naturally. The product of the place, by the place and for the place, traditional built forms remain a way of life, constantly perfected and evolved through time. Hence tradition is not about turning the clock backwards but rather recognising the constancies over time and building upon the accumulated wisdom to save time and mistakes.

"The idea is to develop norms and standards which are indigenous and stem from socio-cultural realities of our contexts in India" Can you elaborate on the statement?

Development norms must stem from realities and aspirations of the given milieu and therefore they need to be contextual and performance oriented. For example Building bye-laws in Ahmedabad gave concession in computation of allowable built up area by exempting 4-feet cantilevered balconies from margin. This encouraged users and designers to provide generous balconies and terraces. The projections work effectively in shading the lower walls and fenestrations from sun and rain, enhancing comfort conditions with least dependence on mechanised means. There have been regressive norms disallowing such projections resulting in box-like buildings since a decade. Non-functional two feet deep protrusion in margins, in disguise of architectural expression are allowed although the use of projections as insulative cupboards, efficient storage or floor extensions is forbidden.

Another example is the blind introduction of LEED rating norms in India. Although well-intended it remains counterproductive and questionable. The norms derived from cold regions and industrial society context with mechanically controlled environments seemed alien and detrimental in naturally ventilated hot or humid Indian context. For instance, naturally ventilated buildings found no points in accrediting buildings as energy efficient but fully air conditioned buildings with 11 hours of air conditioning were defined energy efficient if displayed twenty percent energy saving. Initial norms had no weightage for water demands and consumptions which was a vital resource in hot dry regions. Many norms simply referred to material and products rather than design.

A study in Japan revealed that if the professionals were relieved of their formal dress- code to casual clothing, they would feel comfortable with the air-conditioning set to a couple of degrees warmer temperature. Inappropriate clothing was the culprit for using air-conditioning to create a cooler ambience and thereby consuming extra energy. MNCs impose black three-piece suits to executives in coastal India like Tamilnadu and Kerala creating additional discomfort. The traditionally evolved dress code in humid and warm climates is simple wrap-around loin cloth and bare chest or wrap-around covering as per season and events. This certainly is a smart and appropriate solution that can be adopted and evolved to suit formal offices. Thus from ways of life, daily routine, food palette, attire and house form, all collectively evolve for local environment management. Sustainability is not a formula or recipe to be replicated universally. It is a phenomenon and has to begin with ways of life and end in a built environment.

Environmental Institute of Sanitation in Ahmedabad.

Can you cite design concerns and endeavors that can raise awareness about social sensitivity and sustainable built form?

Contextual fit is a crucial goal for humane and sustainable designs. The designs should be appropriate to the context in terms of place, people and programme; in other words culture, climate and construction. They should have holistic resolution amalgamating five fundamental concerns: timeless aesthetics, socio-cultural appropriateness, environmental sustainability, economic affordability and structural strength and safety.

Manav Sadhana Activity Center in Ahmedabad.

Interactive door made out of Metal scrap.

Diffused light through empty glass bottles.

The Manav Sadhana activity center Ahmedabad was built using different types of waste materials. How do you choose and acquire such materials?

Manavsadhna activity centre was built after three years of intense research on solid waste imperatives in urban centres of Gujarat upon demonstration of certain theories and research outcomes. It included studying the entire cycle of materials from manufacturing to usage to waste generated, collected and transformed to understand the processes, volume and economics involved. The materials included paper, plastic, glass, metal, wood wastes, digital waste, building construction waste and some industrial waste like fly-ash. The materials and their transformation processes were studied and shortlisted for efficient and eco friendly conversion as possible building components. Homes of different economic standing, modern or traditional lifestyle, and the slums were studied for weight and composition of waste, use of recycled material, secondary market source, home application and its economics. Newer products were developed with applications, costs and performance set as benchmark.

The entire process was initiated with the tri-fold goal of improving the environment by reducing waste, economic and gender empowerment through value added process, employment and better structural functional and aesthetic performance through improved built form. The material palette was chosen on the basis of local availability and scientifically tested products on the parameters of strength, hygiene and toxicity.

While there is a growing acceptance of sustainability there is no deep engagement or approach towards that direction. How can this scenario be altered?

Sustainability has become a fashionable word rather than a sacred necessity. This has led to convenient definitions and resolutions adopted to self-proclaim as green. In absence of clear definition and norms, it has become a "mera wala green" syndrome. National and International rating systems and green norms must be inspected. They tend to become universal dictums with certain preconceived conditions and typologies. Most have electricity consumption bias and controlled environment condition assumption disregarding water, ventilation, vegetation, materiality, construction techniques and above all naturally ventilated systems.

The approaches are geared towards tick-marking a checklist rather than conceptual blockbusting and emergent design direction. Another aspect of shortcut and leap-servicing is prioritizing gadgetry and gizmo over fundamentals of design. Design concerns need to precede mechanics and accessories. The architectural education needs to revisit their priorities to invest in fundamentals of sustainable designs rather than tools and software. The building byelaws need to have a clear definition and right strategy for desired built form and evolve clear directions for building standards.

Lastly professionals have to believe in concept and involve completely through pre-design research, design interpretation and approach towards its realisation. Like a doctor, architects should concentrate on curing the patients rather than treating the symptoms.

Design concerns need to precede mechanics and accessories. The architectural education needs to revisit their priorities to invest in fundamentals of sustainable designs rather than tools and software.

What are the future trajectories in terms of upcoming projects, research undertaken and initiatives taken?

Projects post lockdown are an array of scales and situations. Some challenging ones include designing a sustainable township (Aryagram) without any form of electricity or unnatural system, a million square feet urban cultural centre, an ongoing memorial with authentic scaled replicas of national religious heritage, conservation of historic buildings with Gandhian legacy, affordable mass housing as well as residences and office interiors. On the research and publication front two books are due to be published this year which include – "Courtyard houses of India" and "Sustainable built environment: Indian Panorama". Another research underway includes Indian soft landscape resources.

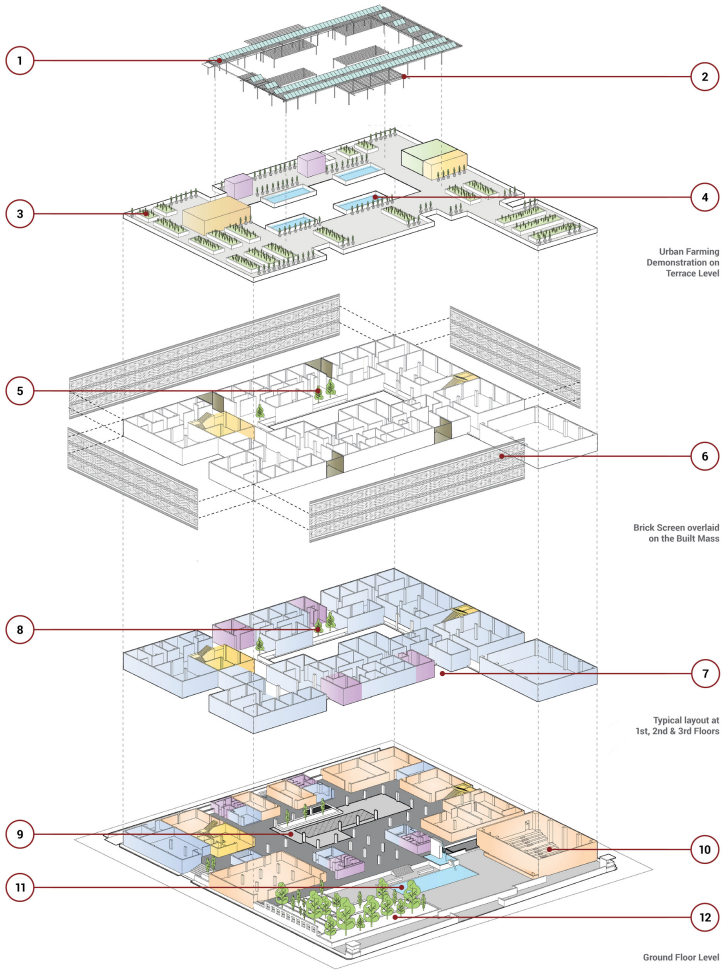
Layout for Aryagram (A sustainable township).

Studio Lotus

Krushi Bhawan

Deriving visual identity from local materials and vernacular narratives

Krushi Bhawan by Studio Lotus. Image Courtesy: Noughts & Crosses LLP.



By Sakshi Agrawal

Krushi Bhawan embodies the idea of inclusive architecture – created for the people, built by the people, and expressive of their collective cultural identity. The project has etched an all-pervasive impact on the community of Orissa.

A government facility that doubles up a cultural haven, this project celebrates regional craft and community empowerment with free-flowing public amenities. In the following article, Studio Lotus talks about their design pedagogy and the various impulses and inspirations that brought Krushi Bhawan into being.

Krushi Bhawan derives its visual identity from local materials and vernacular narratives, manifesting the idea of decentralized state power. The project had an undoubted mandate to reimagine the government's relationship with its people.

Krushi Bhawan's built fabric is punctuated with a vibrant narrative of traditional Odia craft envisioned at an unprecedented architectural scale, a product of over 100 highly-skilled artisans coming together. It exemplifies how a government can be the prime facilitator of patronage for regional craft, and the communities and economies it sustains.

The distinctive brick façade is inspired by the Ikat patterns of Odisha handlooms, created using clay in three different colours that represent the geographical diversity of the region. The tribal cast metal craft of dhokra is adapted to make light fixtures that wrap around the ground floor columns, as well as metal screens that line the building corridors.

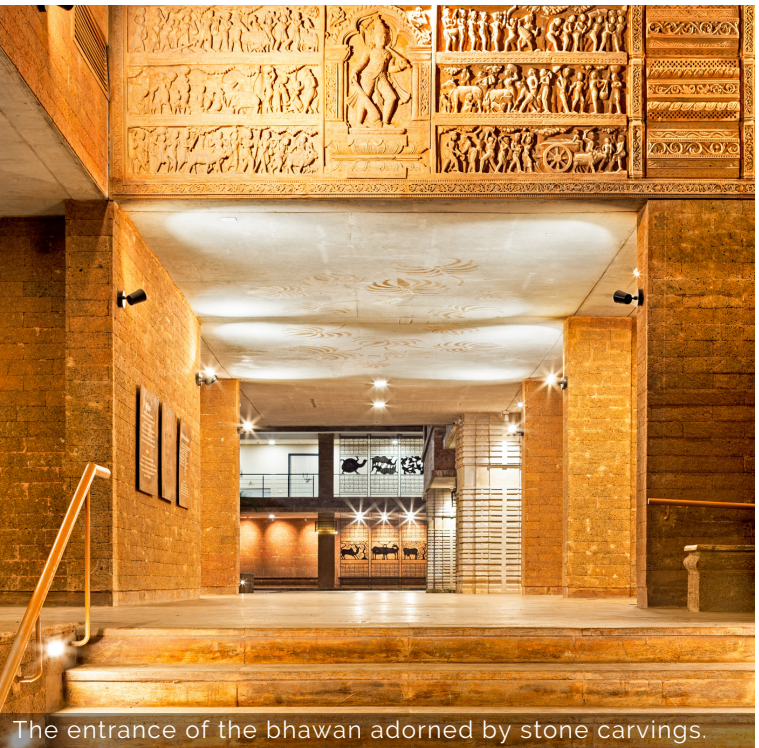
Similarly, agricultural motifs have been displayed across the building through a variety of craft techniques — such as the bas-relief carvings in laterite along the Public Plaza, which depict ripe paddy crops illustrated in the Odia Pattachitra (cloth-based scroll paintings) style. In the Central Court, a Crop Calendar on a stone inlay floor displays the harvesting cycles for the most prevalent crops in the region.

A government facility that doubles up a cultural haven, this project celebrates regional craft and community empowerment with free-flowing public amenities.


The central open space in the bhawan.


The brick facade inspired by Ikat patterns.


The tribal metal screens line the corridor.



The entrance of the bhawan adorned by stone carvings.

Krushi Bhawan was originally planned as a purely administrative space where the client initially envisaged a typical glass office building. However, Studio Lotus envisioned a well-lit and ventilated building where the city draws a connection to the building's interiors. While designing government projects, it is daunting to draw stakeholders into adopting such unconventional approaches.

Cues were taken from Köenigsberger's original vision for Bhubaneswar where he saw the Capitol Complex with a host of government offices becoming "a lively point of public life." Consequently, public functions and community spaces were interspaced in the building which added to the city's social infrastructure. Such a proposition was willingly embraced by the clients.

> The rooftop has been designed to house urban farming exhibits and demonstration of agricultural best practices.

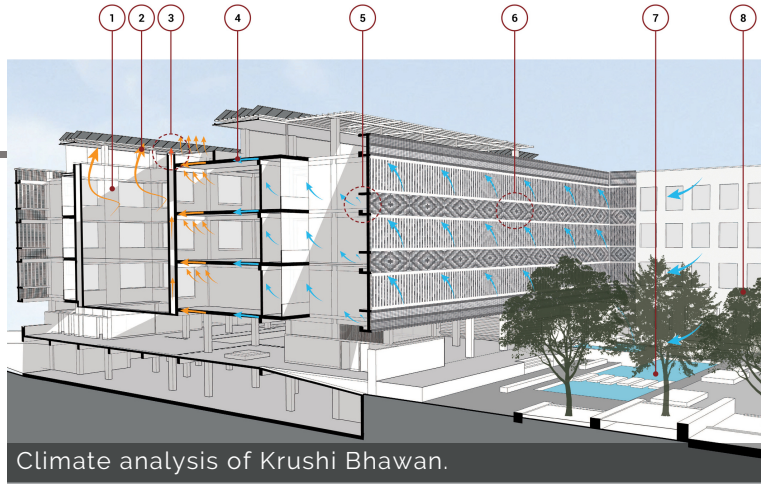
Studio Lotus collaborated with Sibanand Bhol of Collective Craft to bring the folklore narrative to life at Krushi Bhawan. Stone carvers, metal workers, and Pattachitra craftsmen were brought on board to cater towards the realization of this narrative.

Krushi Bhawan is predicated on the principles of Conscious Design—it draws directly from its socio-cultural and environmental context. It seeks to present with its design and building process a model of frugal innovation that celebrates culture, includes the neighbourhood and is highly sustainable. Craft has been integrated with a spatial narrative keeping the expenditure low—demonstrating the feasibility as well as scalability of the approach.

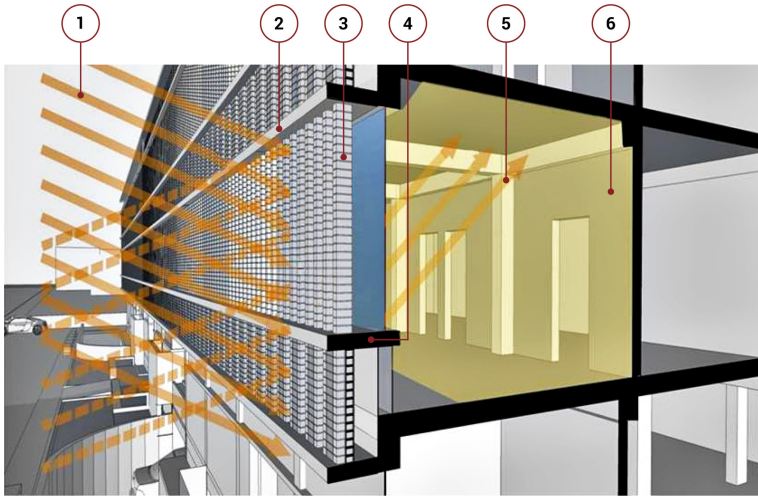
The operational costs of the building were largely reduced by employing various passive design techniques. The courtyard morphology and the inclusion of a stilt level aid optimal air circulation through the building; the staggered building profile along the Central Court enables self-shading. The high thermal mass of the complex has cut down the need for mechanical air-conditioning to only 20% of the built spaces. The project employs a material palette primarily comprising locally-sourced materials, which has helped in significantly reducing the building's carbon footprint.

Other interventions include solar panels on the terrace, on-site rainwater harvesting and wastewater treatment, and an anaerobic bio-digestive solid waste management system which generates compost and fertigation water for the landscape.

With its design and building process, Studio Lotus has brought forward a model of prudent configuration in design that celebrates culture and acts as a catalyst for the genesis and growth of the neighbourhood, something very apposite in countries like India.



Climate analysis of Krushi Bhawan.



"We designed the building to transcend the typical closed office campus morphology by integrating governmental functions with direct community engagement and education. The complex brings the Odia farmers and the citizens of Bhubaneswar into the fold and facilitates their interaction and collaboration."


Plan view of Krushi Bhawan.

Shanmugam Associates

Rane Vidyalaya

Providing opportunities for students and promoting local labor and materials under one roof

Rane Vidyalaya by Shanmugam Associates. Image Courtesy: LINK Studio.

By Shriya Goyal

Expedient and traditional architecture, sensible in nature and built of local materials, Rane Vidyalaya can easily become the face of contextual and vernacular approach to architecture in India. The educational institute is designed by Shanmugam Associates in the village Theerampalayam, Tamil Nadu. Rane Vidyalaya CBSE school is a campus for K12 and a CSR initiative by Rane Foundation India Pvt. Ltd, a leading industrial corporation. The open and earth bound school supports and yields opportunities for students and teachers and makes studying and learning convenient.

> The school reflects the architectural language of the neighbourhood, utilises local materials, engages in a cost-effective design solution and forms a joyful educational environment.

The Foundation reached out to rural regions that lacked schools with standard learning. Rane Vidyalaya, built in Theerampalayam aims to establish positive social influence on its local communities who are primarily involved in agriculture and unskilled labour. The project was planned in 2 phases by Trichy & Chennai based Shanmugam Associates who navigated budget constraints, deadlines and structural challenges. The use of local materials reduced the cost of the project since the project was executed at $20 per sq.ft. and ensured that the local context is maintained.

The design for Rane Vidyalaya is inspired from the 6th century Thiruvellarai temple's walls and the layered cross-sections of 50-year-old local houses in the district. The facade is created with levels of red wire-cut bricks obtained from local kilns and alternated with grey fly ash bricks recycled from cement waste. This technique is inspired from the local construction system of layered cross-sections stacked for structural support. It consists of heavy materials such as stone and rubble set at the base and finer solid brickwork, mud and slate at the top. The architects smoothened the building corners with soft edges and circular columns. This forms an inviting atmosphere, toppling the stringency traditionally associated with Indian academics. Roof slabs stretch through the building and jut outward as cantilevers to diffuse the sunlight coming in.

The exposed brick structure continues in the common interior spaces. The classroom walls are plastered in white to enhance the space with natural light. Top-hung shutters line the classroom walls at lintel height, to enhance ventilation. The classroom layout allows for structured learning as the grades move up. While the higher grades have a formal layout, individual garden spaces sit adjacent to every kindergarten classroom, encouraging a constant indoor-outdoor transition. The central space of the school is illuminated by a light-filled courtyard connecting all levels. This serves as a multi-functional place for student assembly, lunch breaks, co-curricular training and small gatherings.


Classrooms with adjoining garden spaces.


A play of light and shade in the central courtyard.


Terracotta jaalis used as secondary shading devices.

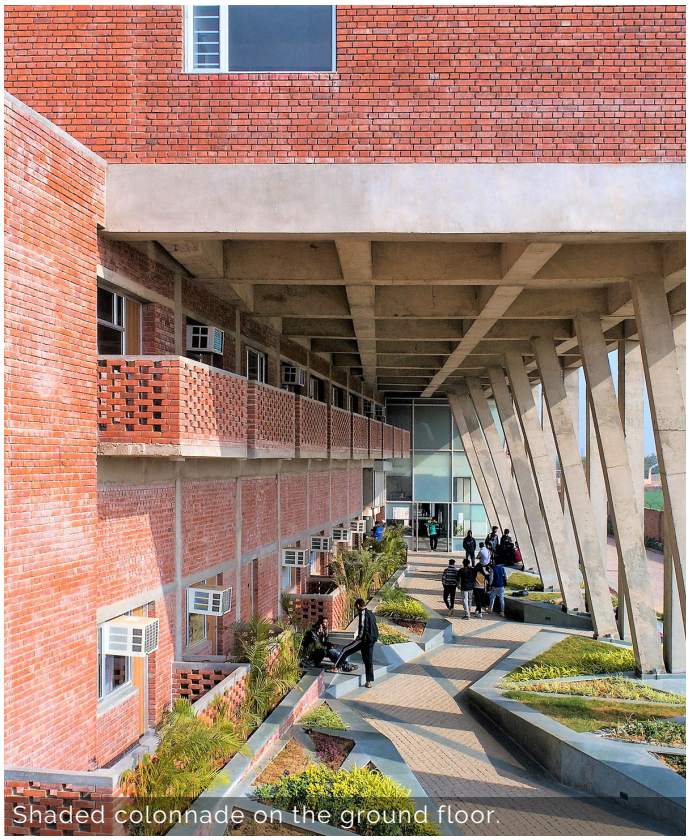
The warm climate is addressed by having openable windows on the facades and use of terracotta jaalis as secondary shading devices. Primary openings are devised along the south-east and north-west wind direction. Minor wind tunnels in an east-west direction between classrooms are provided for additional ventilation. Several green courtyards adjoining and surrounding classrooms help create a pleasant learning environment. A play of light & shade through roof perforations, safe green courtyards and sufficient cross ventilation has minimized the use of mechanical equipment. The school reflects the architectural language of the neighbourhood, utilises local materials, engages in a cost-effective design solution and forms a joyful educational environment.

Zero Energy Design lab

St. Andrews Boys' Hostel

Intersecting education and sustainability with a meticulously designed and engineered residential complex

St. Andrews boys' hostel by Zero Energy Design Lab. Image Courtesy: Noughts and Crosses LLP.



Shaded colonnade on the ground floor.

By Shriya Goyal

Surpassing the monotonous and conventional boxy structures of its counterparts, The St Andrews boys' hostel emerges as a manifestation of Indian vernacular architecture embracing today's needs and construction techniques.The hostel is located in Gurugram and is designed by Payal Seth and Sachin Rastogi of Zero Energy Design Lab (ZED Lab). With sustainability at the core of their design processes, Delhi-based ZED Lab focuses on human comfort in union with the environment. The Orientation of the building, materiality, and creation of spaces is derived through research based on climatic conditions, sun path analysis, and air movement, to create social, and cultural spaces honoring student life.

Visualised as a linear block to house 360 students, the hostel block evolved into an exposé of functionality, sustainability, and technology in the existing master plan of the campus. Anticipating the importance of student interaction with the spaces, the landscape around, and amongst themselves, the passive design strategies of the building facilitated socially and environmentally active spaces. With a built up area of 60000 sq.ft., the hostel building reinterprets Indian vernacular architecture that is molded to suit contemporary times and techniques.

> The hostel design renders a sense of community and socialisation. It celebrates and nurtures student life by harnessing student interaction, within the indoor spaces that permeate outward and engage, with the landscape around it.

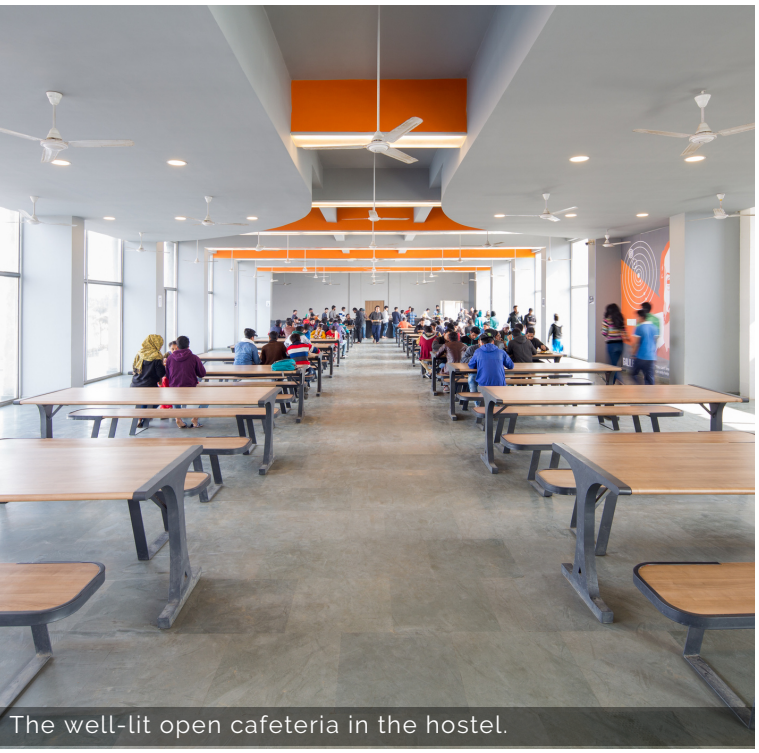
The complex attains its primary identity from the basic building block – the 'brick'. The material creates a visual impact, and also heeds to the climatic conditions of the site. Brick jali on the facade imparts texture and colour to the structure, allows thermal insulation and minimizes direct heat gain. The balconies are sheltered within the jali, devising a buffer between the outdoors and indoors. Movement and diversity is created by the rotated ground floor wing. This builds a shaded colonnade entrance, and an open terrace in the south and north facades respectively and creates a shaded court for relaxation and gathering. The entrance ramp acts as a buffer and guides students to the well-lit open cafeteria. The terrace holds an extroverted character and overlooks the playing area, establishing a visual dialogue with the overall context of the campus greenery and nearby buildings.


Brick imparts colour and allows thermal insulation.

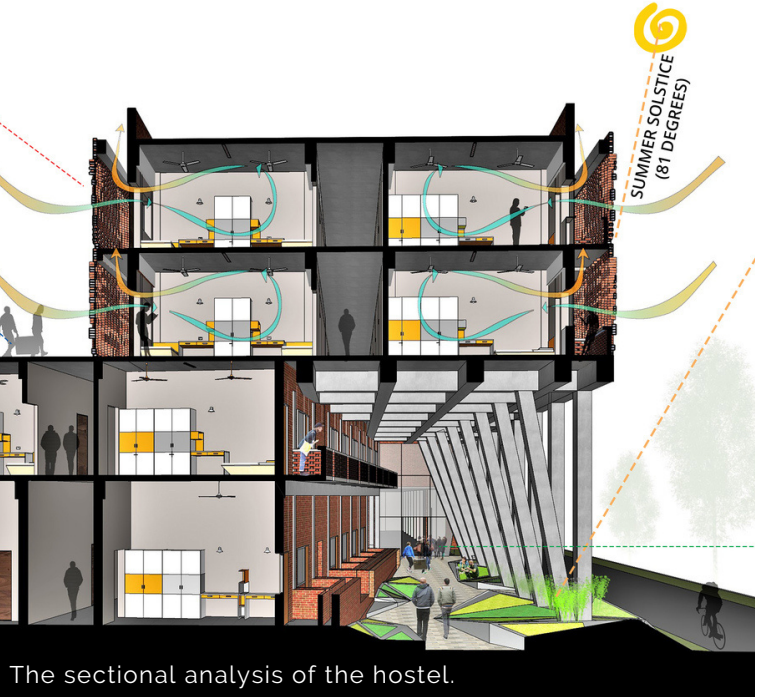

Bricks are rotated at regular intervals to break monotony.


The sheltered balconies act as a buffer.

Brick jaali allows ample daylight in the living units.



The well-lit open cafeteria in the hostel.



The sectional analysis of the hostel.

The unconventional and interactive block composition creates a stimulating space for the students, boosts student energies, and builds conversations.The building has a horizontal profile with simulations on each brick, that are rotated and then placed at regular intervals to break the monotony of the structure. The hostel block comprises recreational courts, mess facilities. and dorms. The dorms are provided with a triple height terrace and the volume created imparts opulence and openness to the building, a typology that is commonly associated with monotony, and bare spaces. The interior spaces are an extension of the exteriors as the atrium allows natural light penetration in the building. The landscaped ramp located within the summer court acts as a transition space between the harsh outdoor and relaxed indoors protecting students from getting a thermal shock. The brick envelope of the building harnesses disruptive software technology such as Ecotect, Grasshopper, Ladybird, and Rhino to create a sustainable design narrative. The use of software technology is pertinent to the design of the brick jaali that circumscribes the building, providing thermal insulation and ingress of diffused natural light. This reduced radiations by 70% on the primary facade.

All the local materials for the project were acquired from within a 500 km radius of the site. Bricks with a single hole were manufactured to be stacked one on top of another. The rotated bricks reduce solar radiation, and provide adequate daylight and ventilation to the living units behind the skin. No cement mortar was used to construct the envelope spanning 250 ft in length and 21 ft in height. The hostel design renders a sense of community and socialisation. It celebrates and nurtures student life by harnessing student interaction within the indoor spaces that permeate outward and engage with the landscape around it.

A Cursory Glance!

Biltrax enables sales, marketing and business development teams of construction material manufacturers, distributors, turnkey and trade contractors, and project management consultants with growth opportunities. Biltrax Media is covering various construction technology innovations happening across the world and their application to Indian scenario.

This issue features the thought leaders of the construction and architecture fraternity, highlighting their notable projects, design principles and future trajectories. The 10 project and profile articles along with the client features in this collection embodies conversations with influential names in the construction and design sectors and some remarkable projects of India by globally known architects that celebrate design in it's true sense.

Meet the Team!

Shriya Goyal is an architect with a passion and flair for writing. With experience in architectural practice, she is aware of the ins and outs of design. Her zest for writing and communication has led her to crafting curated articles, interviewing esteemed architects and giving words to built forms all around. She is also our resident graphic designer.

Sakshi Agrawal is an architect hovering along the edge of multiple design disciplines like interior design, architecture, design writing, and research and interlinking them. Architecture to her is a medium to shift dreams to reality. With an architect's eye and a writer's mind, she aspires to pen down the narrative every structure beholds.

Twinkle Tolani is a fresh architecture graduate from Nashik. She has an analytical mind with an avid interest in human psychology and the impact it has on design. A good communicator with a keenness to learn and explore new concepts in architecture and design, Twinkle brings in a fresh perspective to the content that we curate at Biltrax Media.

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