

**Studio SKLIM_Portfolio
2024**



**STUDIO
SKLIM**

CONTENTS

Professional Work - Studio SKLIM, 2007-Present

All work has been led and directed by the Author with collaboration as indicated in each project's data sheet

Modern High School International

Kolkata, India, 2016/2023

4

LO-HI Tech - Primitive Futures: Future Frontiers

Seoul, South Korea 2022/2023

12

Kenopy - Kenaf Biocomposite Architectural Tiles

Singapore 2021/22

16

+Plus Pavilion

Singapore, 2021/22

18

Hansha Reflection House

Nagoya, Japan, 2010/2011

20

9-15-Deloitte Center for the Edge

National Design Centre, Singapore, 2020

26

Voids Café

River Valley, Singapore, 2019

28

Verdant Spine Office

Cecil Street, Singapore, 2019

30

Bamboo Umbrella Pavilions

Bangkok, Thailand, 2018

32

Rattan Clouds

Jalan Besar, Singapore, 2015

34

Brick Bakery

Keong Siak, Singapore, 2014

36

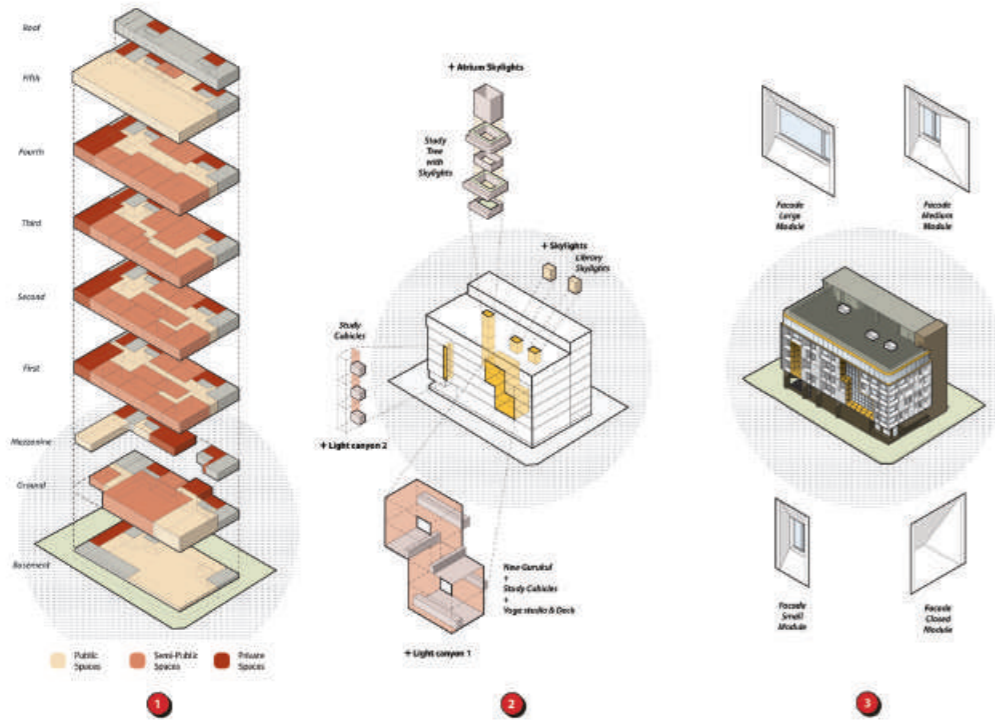
360° Kiosks

Singapore River, Singapore, 2007

38

Modern High School International

Kolkata, India, 2016/2023



A series of strategic voids punctuate a rectangular building mass and carve out pockets to emit natural daylight into the learning commons of an urban school.

Context

In Kolkata, India, the existing basketball courts of 'Modern High School for Girls' have been transformed into a 6-storey co-ed international school. Situated at a noisy and congested traffic intersection, the building's massing begins as a rectangular block with north/south long elevations and east/west short elevations. The choice of a north-south longitudinal orientation with east-west as the short frontage aims to maximize natural daylight in south-facing classrooms year-round and provides an elevated panoramic view of a recreational lawn and the broader cityscape of Kolkata. This alignment also exposes a large facade surface to the prevailing wind, unobstructed by nearby infrastructure.

Programmatic Organisation

The International Baccalaureate curriculum (IB) brings about a shift in teaching pedagogies, leading to a reorganisation of spatial layouts. Students now move to resource centres instead of remaining stationary in classrooms. The new programmatic mix focuses on establishing dynamic relationships between student spaces and administration/teaching staff. For instance, the staff room is distributed across multiple levels to enhance student-teacher accessibility. Each unique floor plate features a distinct programmatic distribution, encouraging student movement and creating a vibrant atmosphere throughout the building. Formal academic programs are seamlessly integrated with informal spaces such as a maker's workshop, exhibition space, yoga/exercise room, multi-purpose studio, study nooks and communal discussion areas to foster both conditioned and cognitive learning.

Moreover, the learning commons are strategically expanded to create intimate pockets of spaces by merging corridors and rearranging the placement of surrounding classrooms, resulting in winding circulation paths with various nooks. At the building's apex, an entire floor plate is dedicated to a state-of-the-art library with quiet and general discussion zones. The quiet zone includes discussion pods for individuals and groups, providing access to multimedia resources and facilitating meetings.

A continuous glazed ribbon of fenestration across three sides offers students a contextual view of the city while reading or studying in natural daylight. Adjacent to the library is an event space designated for functions like student exhibitions or workshops by esteemed guests and alumni. The library is envisioned as both an active facilitator and a receptacle for knowledge transfer, serving both students and the broader community.

Lighting the Learning Commons

Two 'Light Canyons' are carved into the building mass, with an additional 'Light Canyon' inserting itself down the middle, forming a naturally lit atrium. These canyons create staggered communal spaces and offer the public glimpses of the school's activities through these apertures.

The primary 'Light Canyon' features staggered discussion areas emerging from a biophilic classroom, inspired by the rustic setting of traditional Indian Gurukul classes, at the base level. Cantilevered platforms visually unite across different levels, while cascading voids take inspiration from natural canyon formations.

The secondary 'Light Canyon' introduces a tapered slot of light from the south, leading to the 'Light Atrium.' This bathes the atrium, fittingly named the 'Study Tree' due to its patterned balustrades resembling branches, in natural light across five levels. The 'Study Tree' area provides both communal discussion niches and individual study desks.

Structural Play

To achieve programmatic flexibility and introduce structural innovation on the south façade, the vertical services and circulation stacks were relocated to the north side. Additionally, structural engineering included the implementation of 5 post-tensioned beams capable of spanning up to 14 meters from the southern part of the building. This design choice resulted in a column-free environment for the multi-purpose hall, a majority of classrooms, and the learning commons.

The structural configuration not only allowed increased exposure to natural daylight from the south but also utilised cantilevered platforms to selectively filter direct sunlight into the common areas of the building. The strategically carved-out spaces, validated by solar radiance simulation studies, contribute to thermally comfortable enclosures, creating a conducive environment for students to gather throughout the day.

Given the persistent urban challenges of traffic noise and air pollution, the decision to glaze these 'light canyons' was imperative. The primary goal was to establish an acoustically suitable environment with clean air, all while maintaining a visual connection to the city context through expansive fenestrations.

Façade Articulation

The primary façade envelops the building on three sides using inclined ceramic panels. The vertical air gap within the ventilated light-coloured façade serves to insulate the building from direct solar radiation, prevent condensation built up and reflecting the majority of the incoming sunlight. The façade, segmented into 29 large modular types, is designed to optimise natural daylight penetration into the classrooms. Additionally, these inclined surfaces, coupled with recessed double-glazed windows, are strategically articulated to mitigate direct glare. The inclined form of these modules also addresses the client's practical request to minimise ledges for birds to perch, considered a nuisance in the city's context with their incessant bird droppings and chatter.

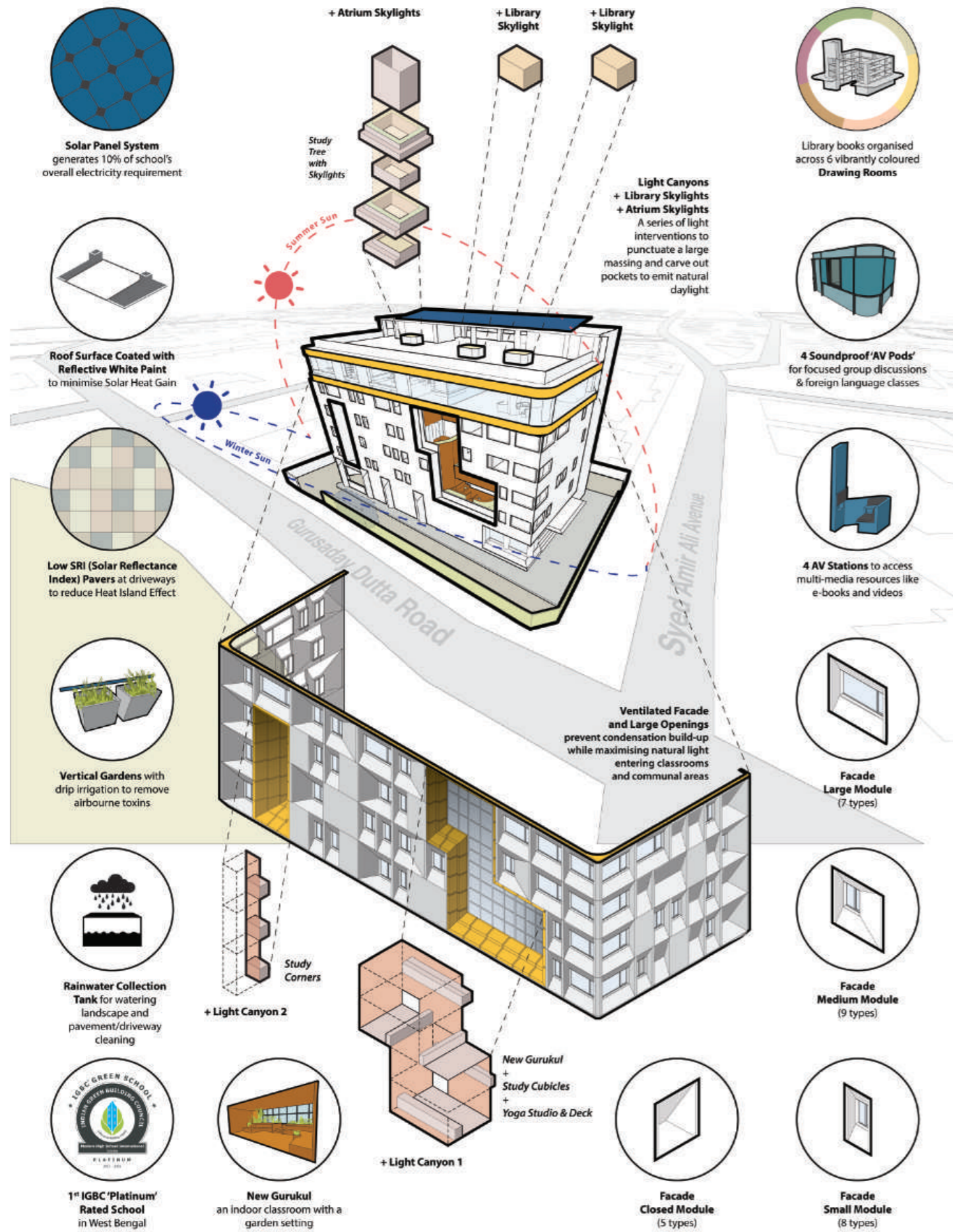
Sustainability and Ecological Strategies

The school's commitment to sustainability and adherence to green building practices were integral from the initial design phase. The Indian Green Building Council's (IGBC) comprehensive sustainable strategies were diligently incorporated, leading the school to achieve the prestigious Platinum Mark (1st in West Bengal state). Implemented strategies encompass sustainable water practices, promotion of healthy indoor air quality, utilisation of eco-friendly school materials (pavers with low solar radiance index (SRI) to reduce heat island effect), installing clean energy equipment (solar panels), rainwater harvesting collection tanks and integration of green education into curriculum (hands-on workshops on sustainable innovations). The entire building is envisioned as a showcase, allowing students to actively educate themselves in real-time about green building strategies and practices.

The new Modern High School International aspires to be a 'beacon of knowledge' by providing an environment shaped by both natural light and modern educational pedagogies.

CLIENT	:	Modern High School International (CK Birla Group)
PROGRAM	:	Architecture Design (Institutional) Interior Design Landscape Design (Hardscape) Graphics / Wayfinding Consultancy
AREA	:	8,000 m ²
STATUS	:	Completed
DESIGN ARCHITECT	:	Studio SKLIM
Director in Charge	:	Kevin Lim
Project Architects	:	Ashwin Bafna (2018-2021) Josh Punpeng Pattarpol (2016-2017)
Team	:	Svasti Agrawal Suruchi Agarwal Aaron Lee Zakhran Khan Desmond Lee (Sustainability Consultant-Concept)
ARCHITECT ON RECORD	:	Kothari & Associates
PROJECT DIRECTOR	:	Devanshu Daga
PROJECT MANAGER	:	Chetan Agarwal/G.S Agarwal
ON-SITE ENGINEER	:	Suraj Sinha
CONSTRUCTION ADMIN	:	Indra Bansal Sanjay Nandi
ELECTRICAL ENGINEER	:	Balaji Electrical
GREEN BUILDING	:	Godrej & Boyce
BUILDING CONTRACTOR	:	MFAR Constructions
FACADE CONTRACTORS	:	AS Group Asahi India Glass (AIS)
PHOTOGRAPHY	:	Hitesh Toolsidass / Studio SKLIM

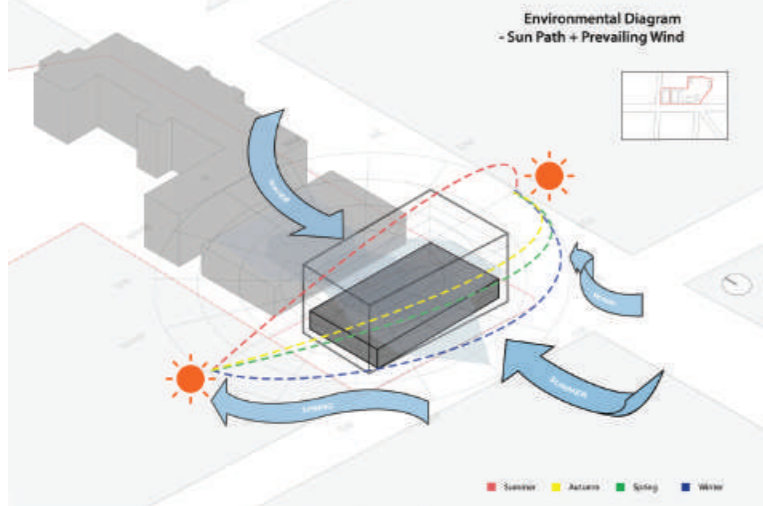
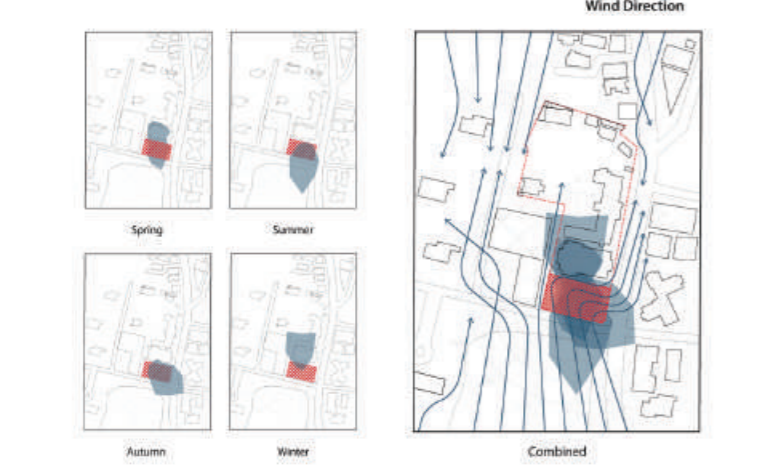
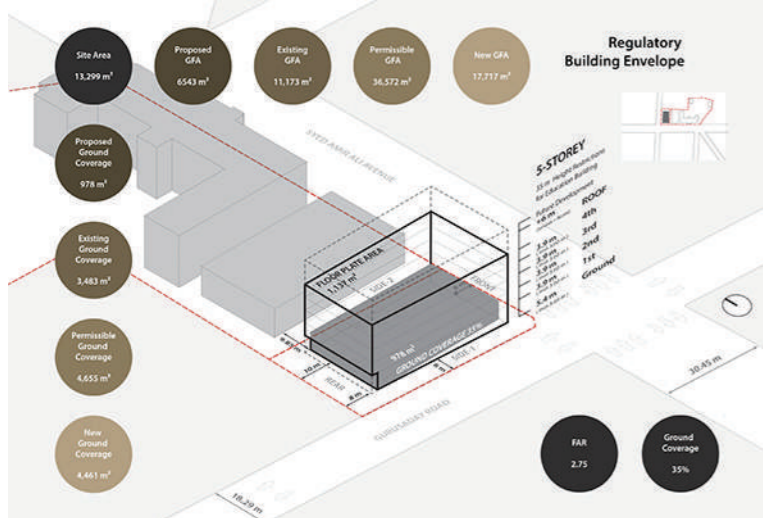
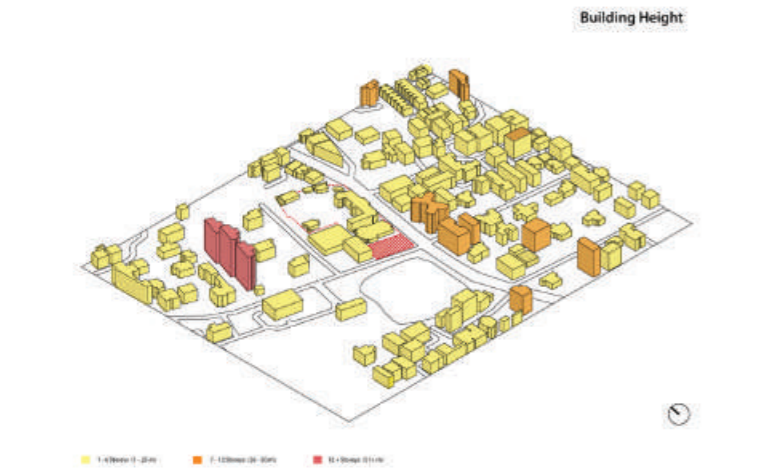




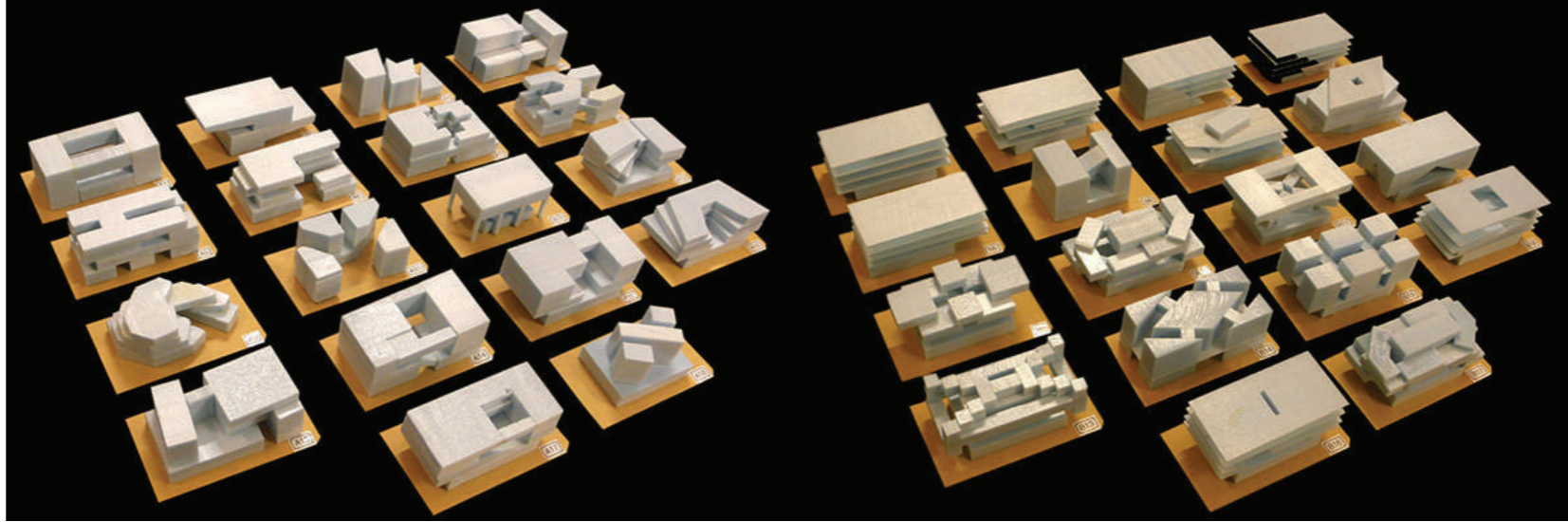
+ Aerial view of MHSI in urban context



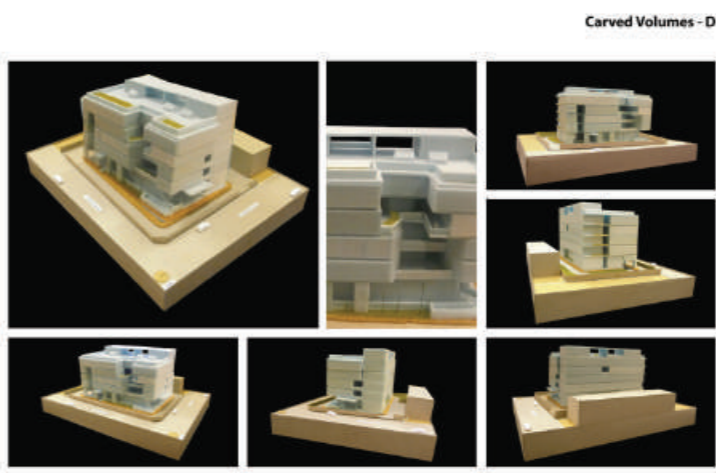
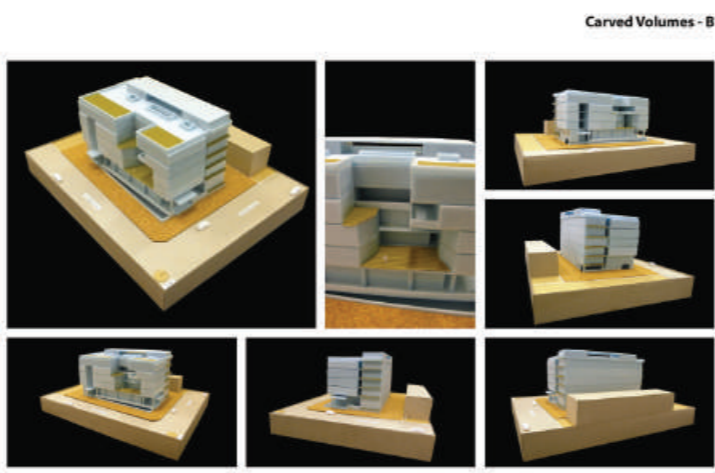
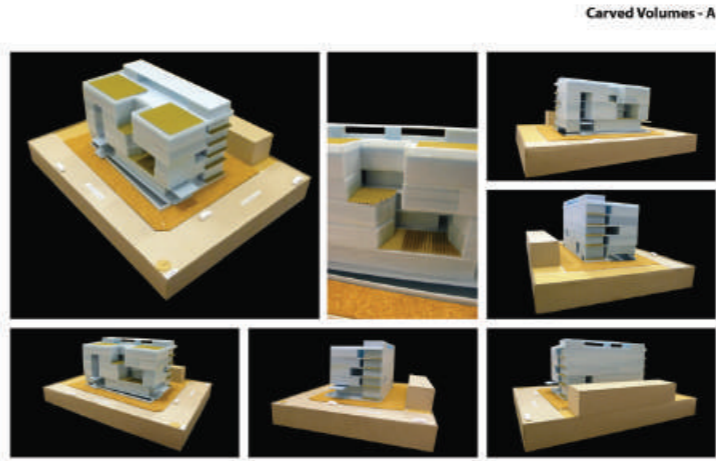
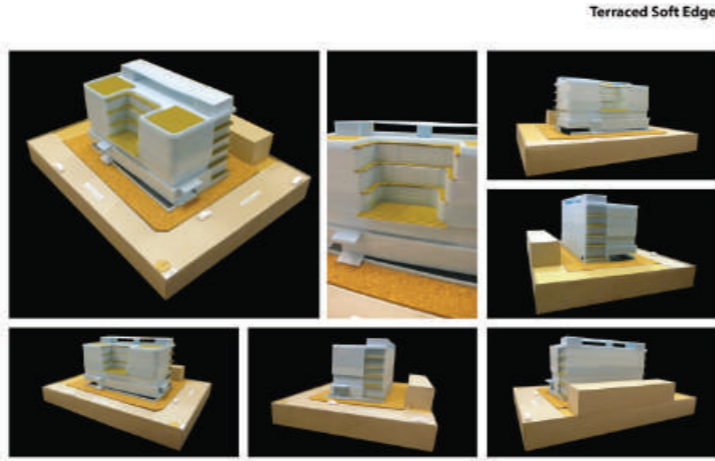
+ Programmatic features



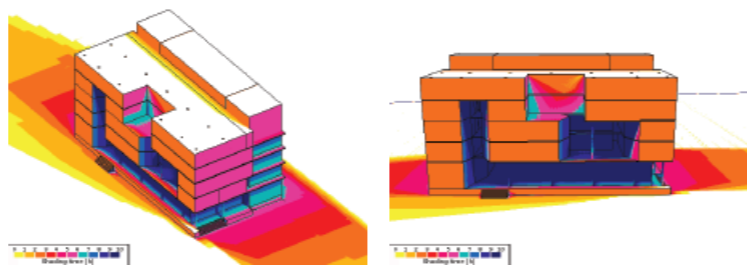
+ Site analysis using urban form, regulatory parameters and climatic data



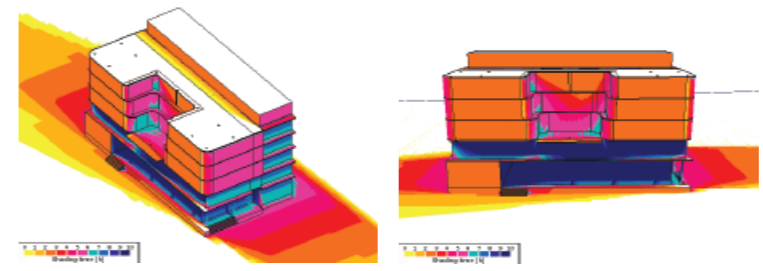
+ Conceptual massing study models based on relationships between possible functions



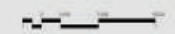
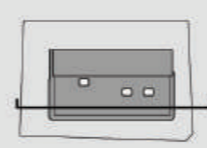
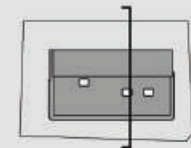
+ Development of 2 shortlisted massing schemes



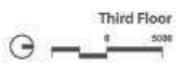
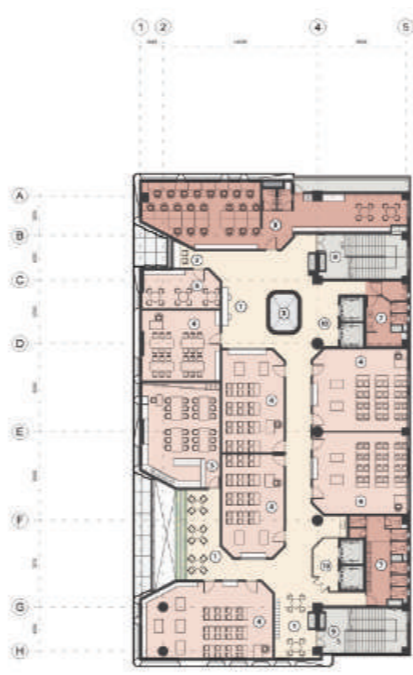
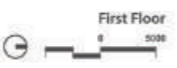
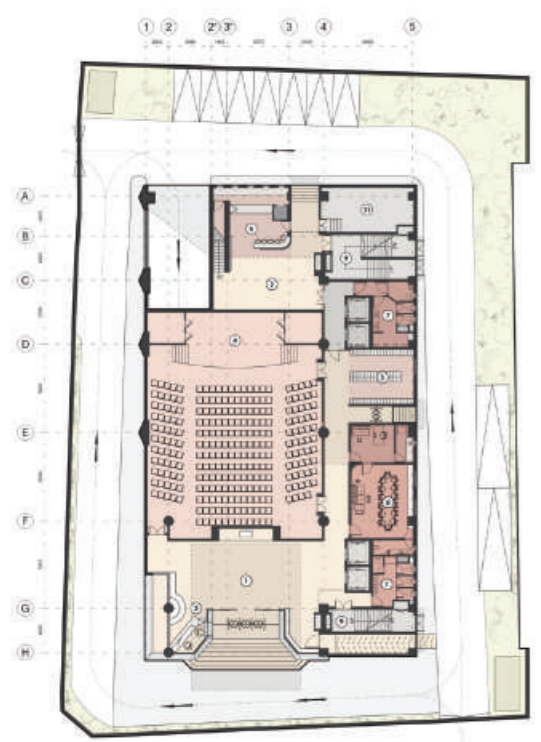
+ Solar radiance studies to evaluate preliminary massing concepts



+ Sectional study model of facade/structure relationship



+ Building sections



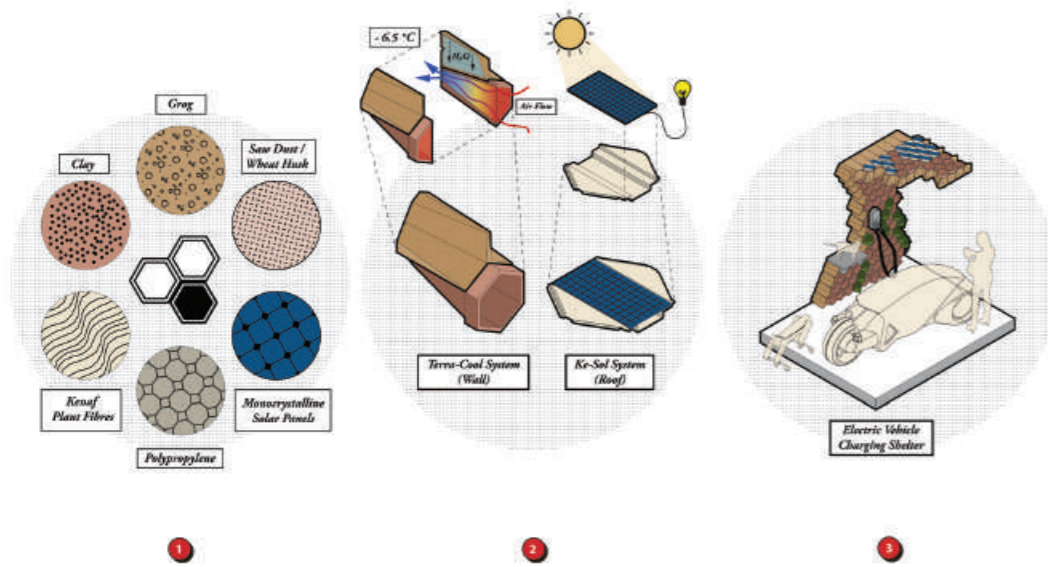
+ Plans of 2nd, 3rd, 4th floor showing light canyons with staggered platforms & 'Study Tree' atrium





LO-Hi Tech - Primitive Materials: Future Frontiers

Seoul, South Korea, 2022/2023



CLIENT :	ZERo1NE (Hyundai Motor Group)
PROGRAM :	Material and Design Research
STATUS :	Completed
AREA :	57 m ² (Exhibition)
DESIGN & RESEARCH :	Studio SKLIM
TEAM :	Kevin Lim Ashwin Bafna Ong Chan Hao Yvonne Zhang Athun K R (Ceramics Lead) Livingstan S (Ceramics) Manoj S (Ceramics) Sivagnanam V (Ceramics) Prabhu A (Ceramics) Sanmugam S (Ceramics) Sakthivel S (Ceramics) Ganesha Moorthi C (Ceramics) Nikhin K (Computer Fluid Dynamics Lead) Devanshu D (Kenaf Biocomposite Coordination Lead) Gurav J (Kenaf Biocomposite Fabrication Lead) Arun S (Solar Panel Lead)
Photographer & Film - Sustainability Strategy - Production and Fabrication -	Ong Chan Hao / ZERo1NE / Studio SKLIM
PHOTOGRAPHY :	

Lo-Hi Tech is all about leveraging the best of both worlds – embracing high and low technologies to craft innovative hybrid solutions that are not only efficient and sustainable but also address pressing environmental issues and improve human living conditions. The research demonstrates the immense potential for sustainable solutions to contemporary challenges by combining Asian primitive materials with both modern and ancient technology. Additionally, it highlights the convergence of traditional craftsmanship with innovative techniques.

Our research focuses on two main building material systems:

Ke-Sol System (KSS) - Kenaf Fibre Biocomposites x Solar Panel System

The Ke-Sol System (KSS) seamlessly blends the strength of Kenaf fibers in lightweight biocomposite roof tiles with custom solar panels. Through a meticulous process involving high thermal pressure, Kenaf fiber mats are molded into robust yet lightweight roof panels. These panels are then integrated with monocrystalline solar panels, creating an innovative roof tile capable of generating clean energy through its modular and tiltable configurations. This integration showcases a harmonious fusion of nature and technology.

Terra-Cooling System (TCS) - Terracotta x Evaporative Cooling Water + Sand Filter System

The Terra-Cooling System (TCS) harnesses the natural properties of abundant terracotta, drawing inspiration from ancient refrigeration (Zeer pots) and irrigation (Olla Pots) techniques. Comprising two main structural modules—Hex and Tri components—the Hex converts hot air into cool air, while the Tri serves as a water tank, supplying water to the surrounding Hex.

By integrating terracotta with innovative technology, TCS forms a wall system capable of reducing air temperatures by an impressive 6.5 degrees Celsius. This temperature drop is attributed to three key factors: the inherent cooling properties of terracotta, a meticulously designed form to maximize air and water flow, and the cooling effect driven by water evaporation. Furthermore, Computer Fluid Dynamics (CFD) simulations refine the design for optimal evaporative cooling performance.

Future Primitives

We envision a future in which material systems effortlessly transition between shelter and vehicular infrastructure, transcending borders. The fundamental premise of our research is the seamless integration of the built environment with vehicles, including energy sources and sustainable materials. One relevant scenario involves creating sustainable shelter infrastructure for Electric Vehicle (EV) charging stations. These structures not only reduce ambient temperatures but also harness solar energy for localized lighting during the night.



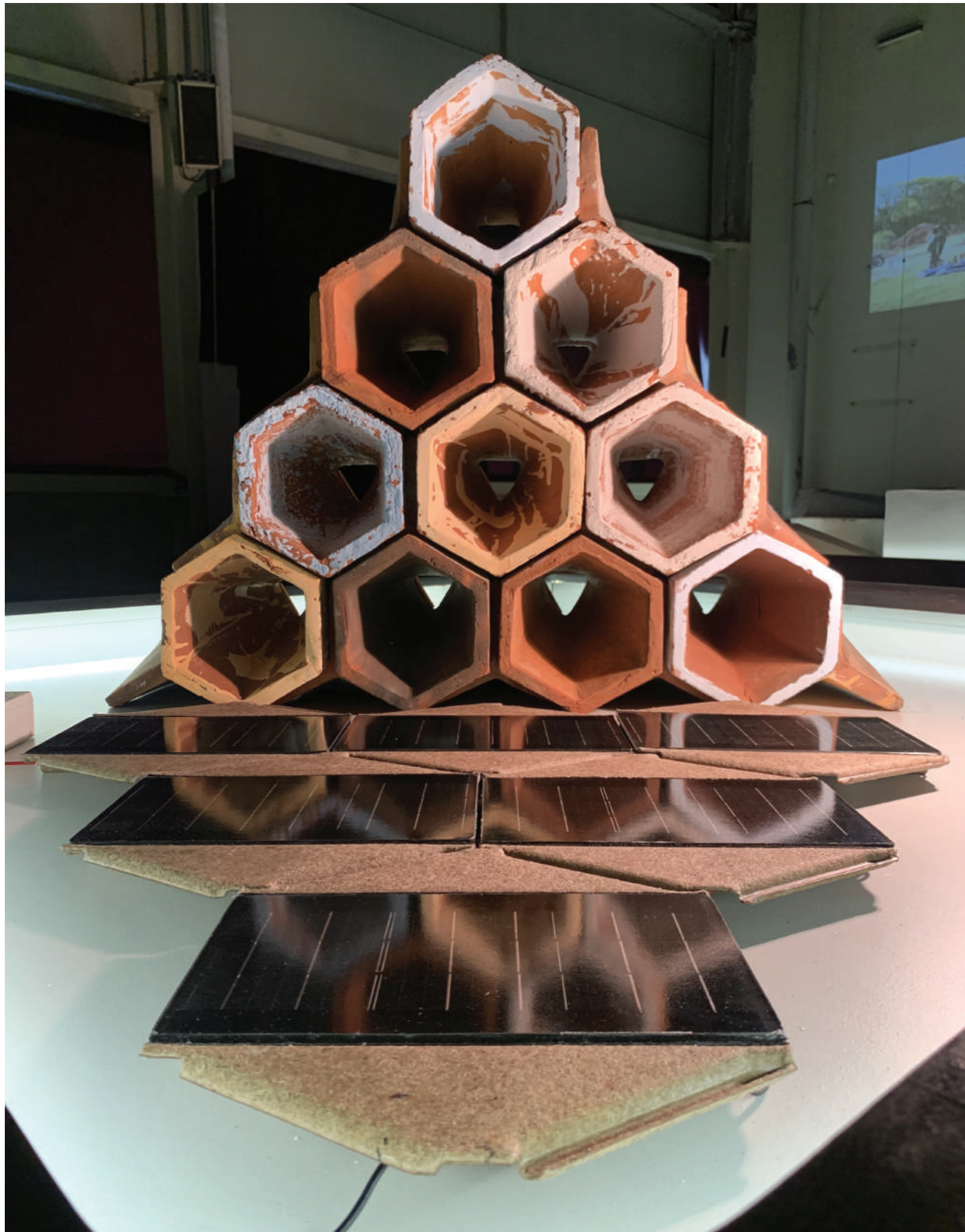
+ Model of future of EV charging stations with integrated TCS and KSS panels

Exhibition Concept

The KSS and TCS prototypes were showcased at ZEROINE 2023 in Seoul. The exhibition is structured around six themed trajectories:

1. Context
2. Sustainability
3. Techne
4. Technique
5. Technology
6. Future Primitives

Each theme is displayed in a radial arrangement of trays containing data, design thought processes, and research methodologies. Every tray captures a fragment and documents the design/manufacturing process through several vignettes. The items on the trays are loosely placed and may be relevant across multiple themes. Visitors are encouraged to draw associations between data, artifacts, and research, allowing them to form their own understanding of the exhibition. At the centre of these converging trays, we present the culmination of our research and the proof of concept for Lo-Hi Tech.



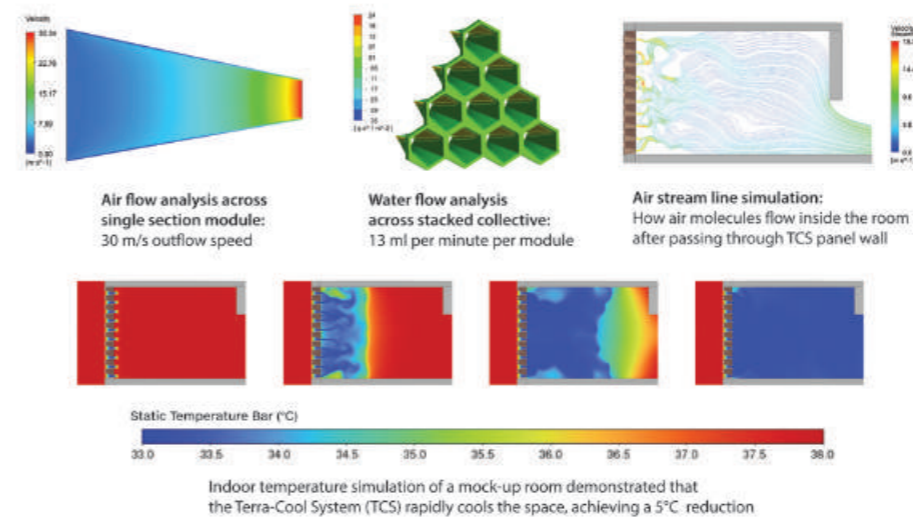
+ Terracotta fabrication at Ayyampettai, Tamil Nadu, India

+ Exhibition showcase at ZERO1NE DAY in Seoul

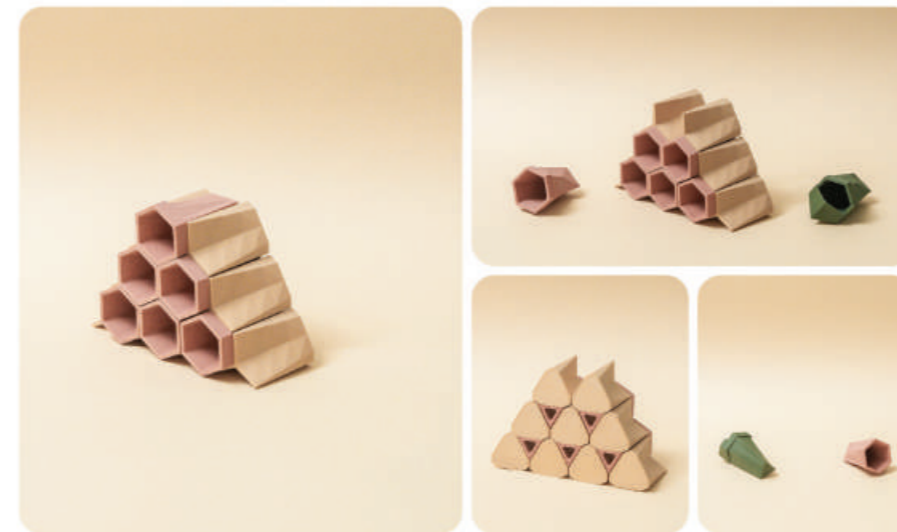




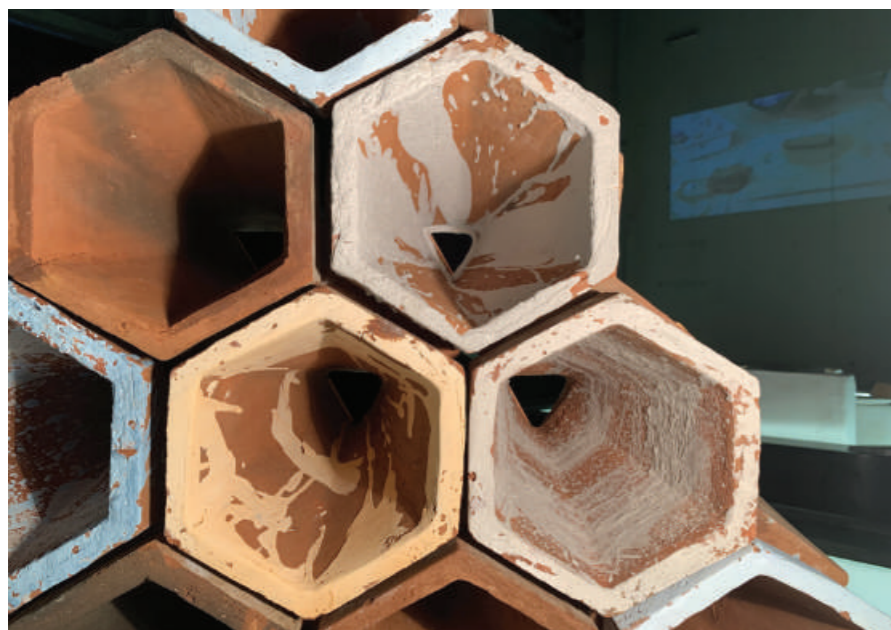
**Performance Analysis:
Computational Fluid Dynamics Analysis on TCS**

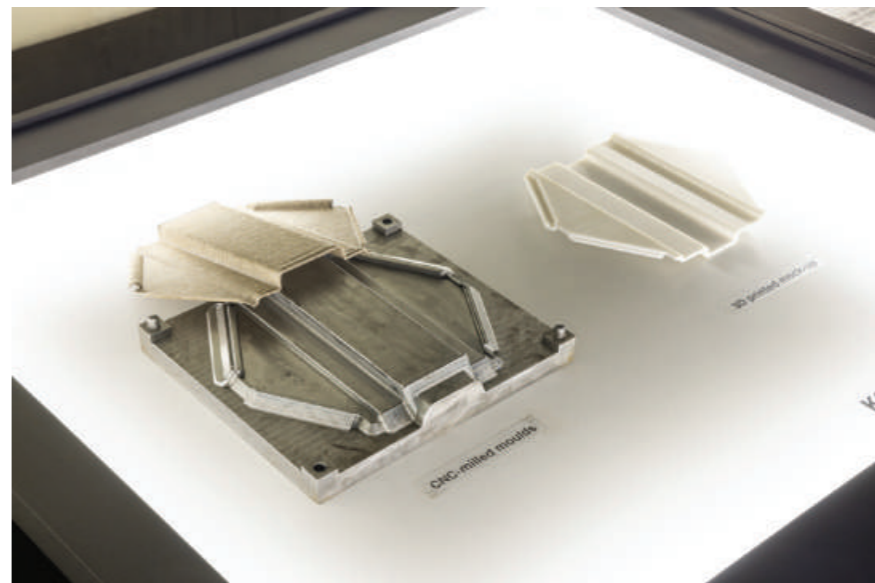
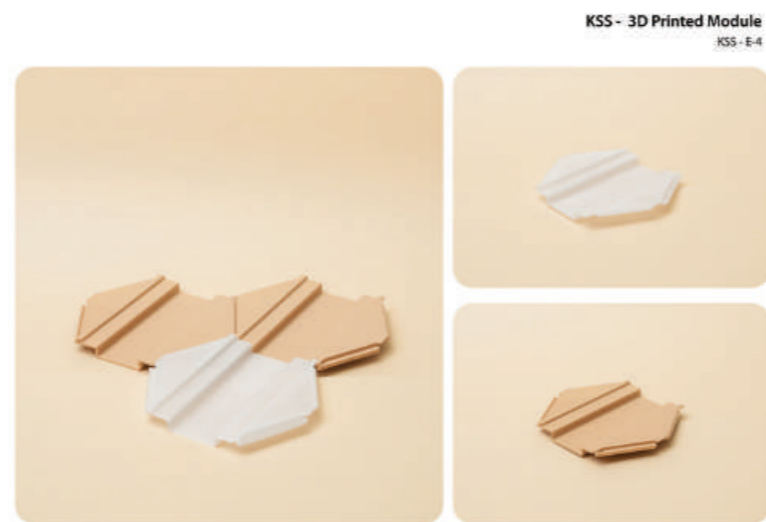


**TCS - 3D Printed Module
TCS - D-2**



+ Computer fluid dynamics analysis and 3D model tests





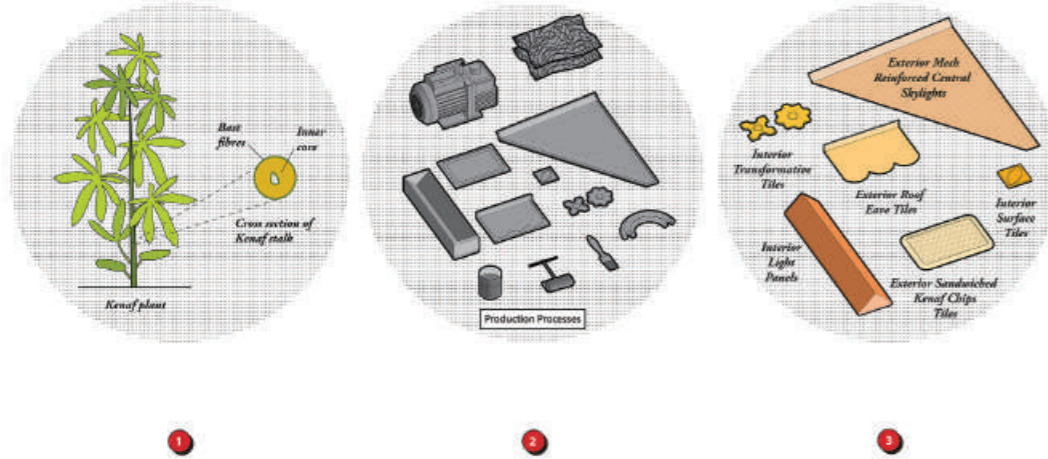
+ Design process and fabrication models of KSS



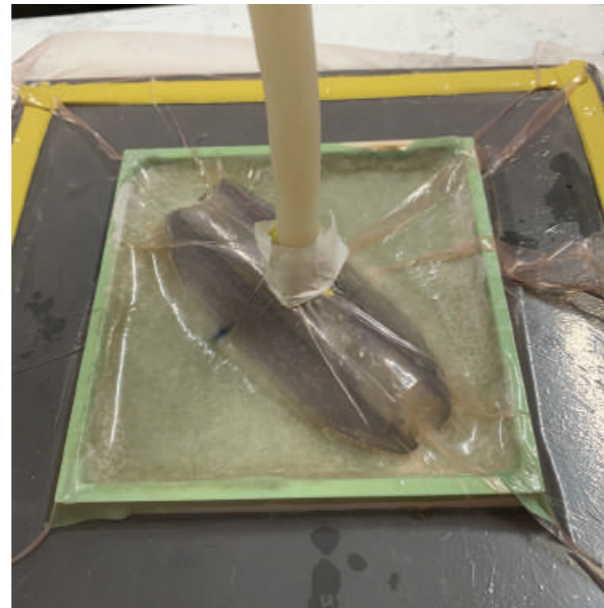
Kenopy - Kenaf Biocomposite Architecture Tiles

Singapore, 2021/2022

+ Vignettes of production process ,showing fibre preparation, organic dyeing, 3d mouldings, vacuum forming and in progress products



CLIENT : DesignSingapore Council
(Good Design Research Grant)
PROGRAM : Material Research
STATUS : Completed
PRODUCT DESIGN : Studio SKLIM
FABRICATION : Studio SKLIM
TEAM : Affordable Abodes
Kevin Lim
Tim Tan (Affordable Abodes)
Ashwin Bafna
PHOTOGRAPHY : Studio SKLIM / Ong Chan Hao



Kenopy is a bio-composite tile made from kenaf fibres. We seek to create sustainable architectural tiles from “Farm to Shelter”.

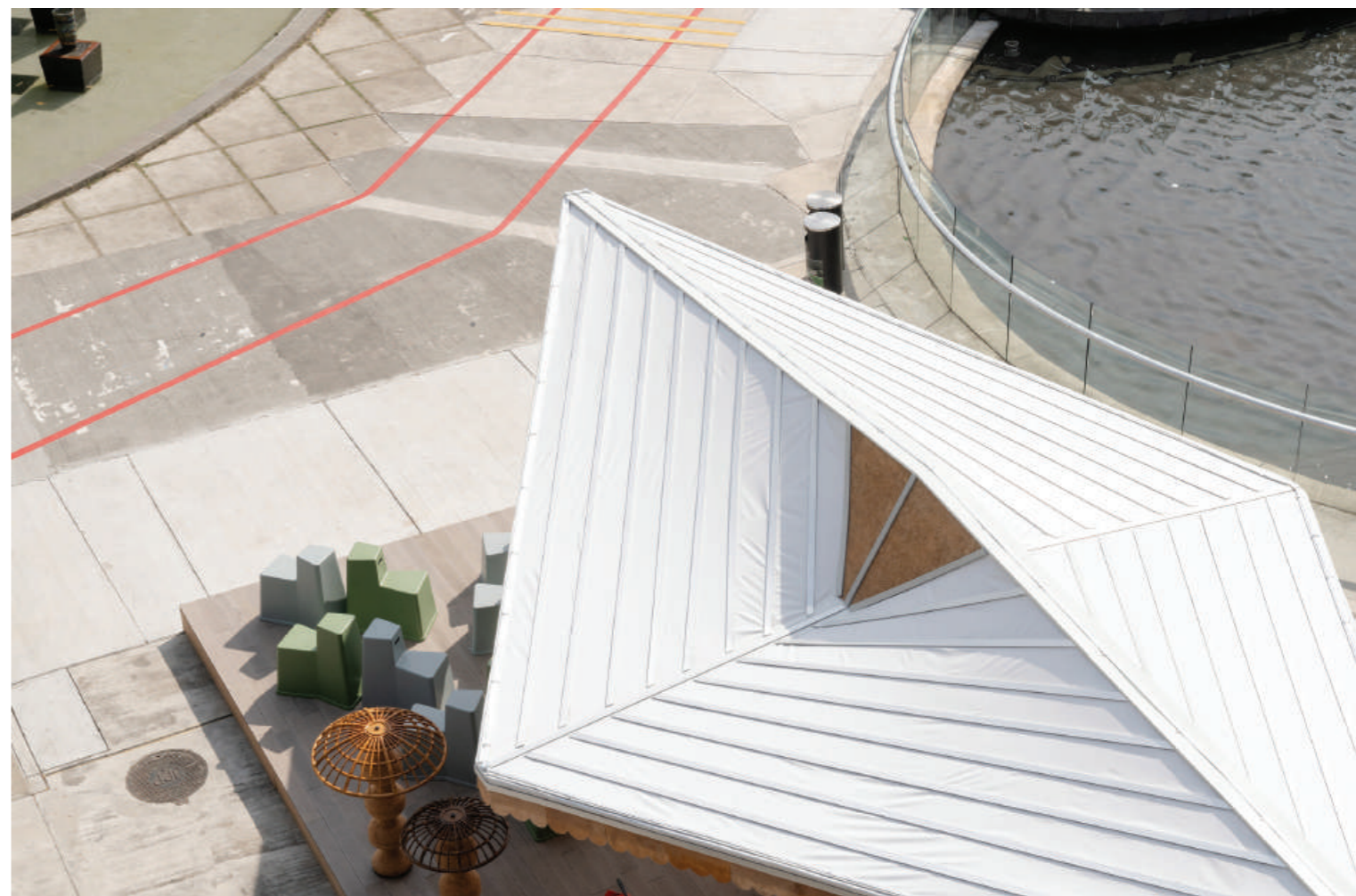
Kenopy, is a research project that develops biocomposites made from kenaf (also known as Hibiscus cannabinus L, a rapidly grown tropical multipurpose plant) plant fibres. We progress through material explorations and accumulated ‘techne’ to produce progressive fabrication iterations and design prototypes

By using renewable plant fibres, the project hopes to play a sustainable part in reducing the carbon footprint of the built environment with this alternative material.

Conventional synthetic materials (like glass fibre, carbon fibre) are good reinforcing materials for biocomposites. However, they are non-renewable and much costlier. The usage of these fibres as reinforcement is more economical, has both renewable & recyclable attributes, and absorbs more CO2 than any other crop.

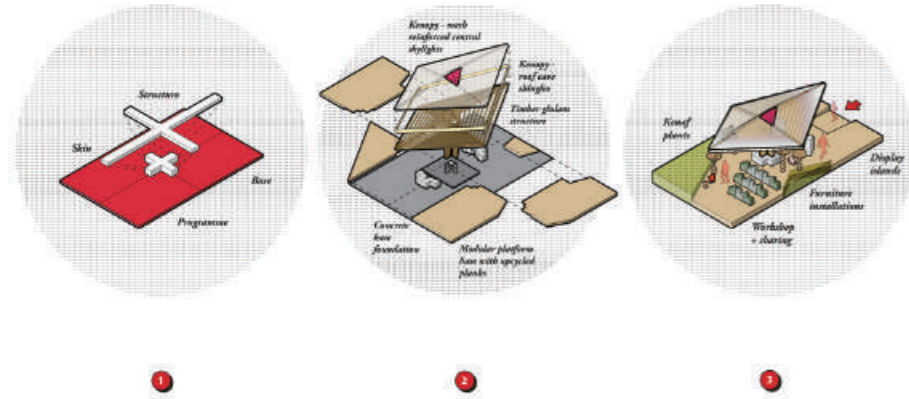
Tiles were developed by first fabricating the interior surface tiles, followed by transformative tiles, and finally by light panels. Various enhancers (like fire retardant epoxy, kenaf chips) were added to develop better durable external tiles. Finally, external roof eaves shingles & mesh reinforced central skylights were fabricated for use at a sustainable pavilion in Singapore.





+Pavilion

Singapore, 2021/2022



CLIENT	:	Embassy of Switzerland in Singapore
PROGRAM	:	Architecture (Pavilion)
AREA	:	85 m ²
STATUS	:	Completed
DESIGN ARCHITECT	:	Studio SKLIM
TEAM	:	Kevin Lim Ashwin Bafna
COLLABORATORS	:	Affordable Abodes Deloitte (Singapore) Ecole hôtelière de Lausanne -EHL Campus (Singapore) Häring Timber Technology Hilti Marina Barrage Nespresso UBS Vitra Ecole hôtelière de Lausanne - EHL Hilti
CONSULTANTS /CONSTRUCTION	:	HAM Creations Keon Consult Pleo Cre8tions TopZone E&C
PHOTOGRAPHY	:	Ong Chan Hao/Studio SKLIM/ Häring Timber Technology
COMPLETION DATE	:	2022

The Swiss cross inspires the structural concept of a glue-laminated timber pavilion showcasing a vignette of a sustainable built environment.

+Pavilion highlights the urgency to reduce the carbon footprint of the built environment - an important action that is part of Singapore's Green Plan 2030 - and the ways industry players can do so.

The built environment of every city and country in the world is collectively responsible for 39% of global carbon emissions, of which 11% is embodied carbon and the remaining 28% is from building operations. Embodied carbon is the carbon released during the manufacturing, transportation, and construction phases of a building. This means that 11% of global carbon emissions are not recoupable once buildings are constructed [1].

Hence, sustainability and circular design techniques must be key priorities from the start of the building design and construction process, in order to effectively reduce the carbon footprint of the built environment.

Designing sustainable buildings requires more efficient construction methods, and the prioritization of the reusability and the durability of buildings and building materials. +Pavilion presents several methods that can reduce the embodied carbon emission of buildings:

+Pavilion is based on modular design and construction with pre-fabricated, pre-assembled modules, and 'fit-for-purpose' services.

The +Pavilion architectural and structural form was inspired by the Swiss cross. Two 'nested' sets of tapering columns and purlins members sprout from this geometry to form the 5m cantilevering supports for the ruled surface roof form. The main structure is made from Swiss glued-laminated timber (glulam) fabricated by a 5-axis CNC machinery which has also enabled subtly rotational curved roof rafters members to be fabricated. The single module manifested in this pavilion is only part of this geometrical tessellation. Two sets of triangulations are conjoined in a diamond configuration, forming a 120 degrees angle at the pair of lower opposite roof ends. This configuration allows three modules to form a sizable shelter and infinitely proliferate itself into a woven shelter tapestry.

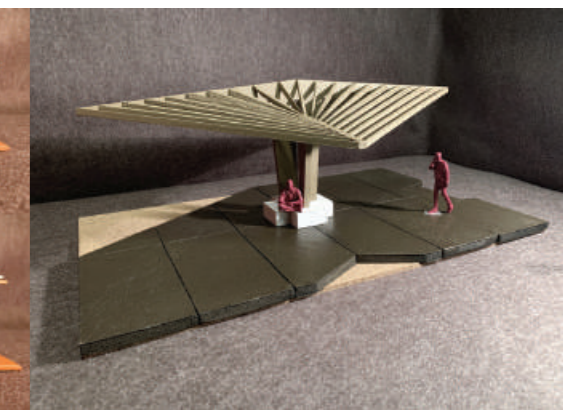
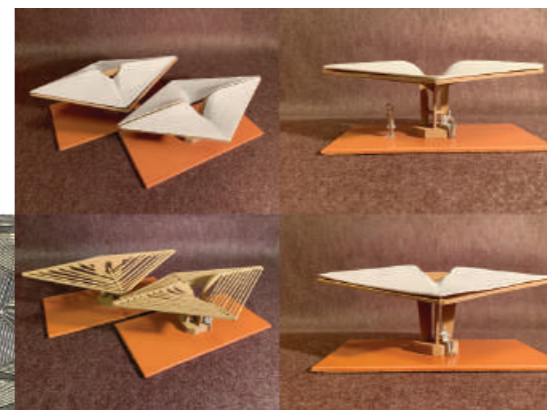
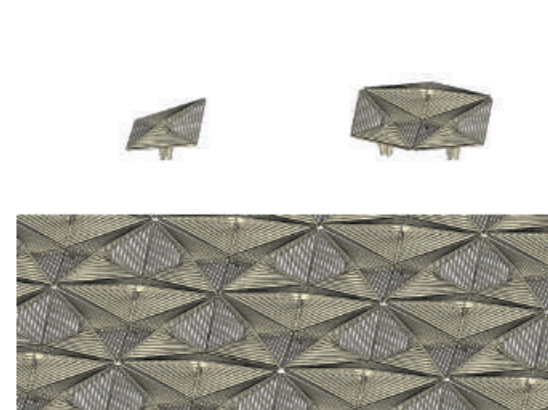
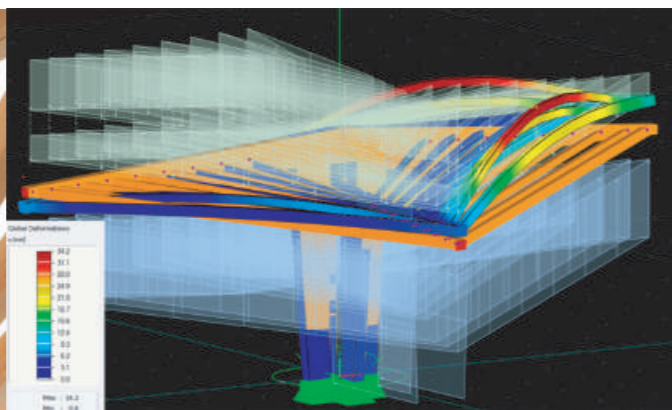
The Glulam structure is counterweighted by a pre-fabricated reinforced concrete panel. The interface is done via innovative anchoring and glued-in rod connections. The floor expands from there into a platform that consists modular off-site bolt & nut system, which avoids the otherwise energy intensive welding works. The modularity provides design flexibility to create a wide range of engineered structures, and the pre-fabrication allows precision manufacturing unimpacted by inclement weather. Both lead to more standardized and efficient assembly, translating to overall savings on building construction cost. The bolted modular supports significantly reduce carbon steel usage, enabling carbon footprint reduction, and reuse for future modifications. On top of the floor base, we are using timber composite floor panels that we upcycled from another project where they previously served their first life-cycle already. Other materials consist of innovative biocomposite made from the



Kenaf plant as parts of the roof and boards made of recycled coffee serving as exhibition signage. It is the first time in Singapore that Kenaf (also known as Hibiscus cannabinus L, a rapidly grown tropical multipurpose plant) biocomposites are being explored as roofing components such as reinforced central skylights and rain eaves.

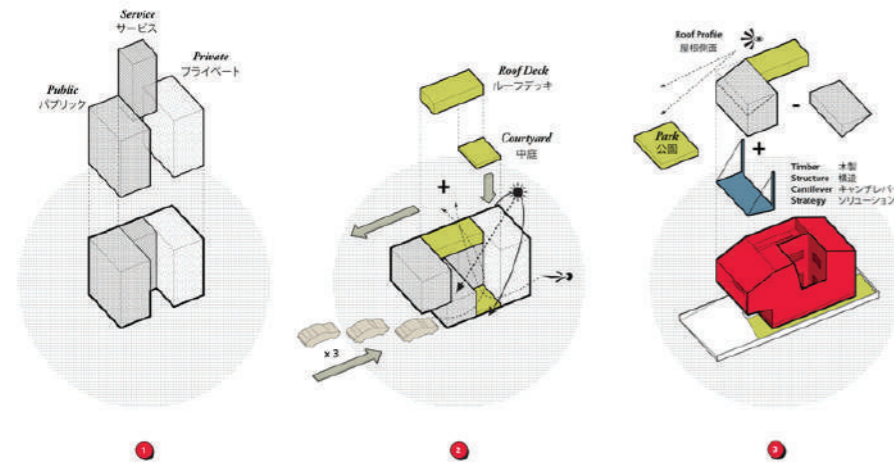
The +Pavilion is designed to attract attention, and encourage engagement with fellow visitors. The furniture on the pavilion, while providing a place to sit, relax, and interact, were curated to demonstrate different aspects of sustainability, from natural to recycled materials. Cork and rattan furniture are creatively used to highlight natural materials and demonstrate the capabilities of recycled polypropylene, composed by a mixture of recycled household waste. Multiple workshops and gatherings are planned to drive more discourse around sustainable building design and construction as part of the +Pavilion program at Marina Barrage. While the installation in itself is a piece of showcase, complementary exhibition signage provides deeper insights into the story of the pavilion and education on sustainability +Pavilion symbolizes the 'sum of parts' approach that is needed to tackle climate change as a whole: starting small, coming together as an ecosystem, and collaborating to turn ideas into reality. This project is just the beginning of something bigger, a showcase of our hopes to transform the way we build.

[1] Source: Embodied carbon call to action report | World Green Building Council (worldgbc.org).



Hansha Reflection House

Nagoya, Japan, 2010/2011



CLIENT :	Matsumoto Family
PROGRAM :	Architecture (Residential)
AREA :	124 m ²
STATUS :	Completed
DESIGN ARCHITECT :	Studio SKLIM
TEAM :	Kevin Lim Machiko Nakamura
BUILDER :	Sakae Advanced Housing Technology
STRUCTURE :	KES System Headquarters Shelter
PHOTOGRAPHY :	Jeremy San/Studio SKLIM
COMPLETION DATE :	2011

Hansha Reflection House is a specific residence for a specific site, set to address the ephemeral moments of the surroundings with structural ingenuity and material sublimity.

Situated at the entrance of Misakimizube Koen, one of the picturesque parks fronting a lake and flanked by Sakura trees, the house was conceived to be an object with the environment.

The programmatic zones of Public, Service and Private spatially organised the house into 3 distinct zones with further punctuation of the main massing with the Landscape element; providing spaces for the courtyard and roof deck. This base form was further chiseled with structure, daylight/ventilation and viewpoint concerns.

65% of low rise Japanese houses are constructed out of timber, a material that has the strongest weight to strength ratio amongst other building materials like concrete and steel. Using timber from a renewable source, coupled with building technology that utilised a hybrid of traditional mortise and tenon joint system with steel bracketing, this house was able to push the ubiquitous "boxed" building envelope for timber residential construction in Japan.

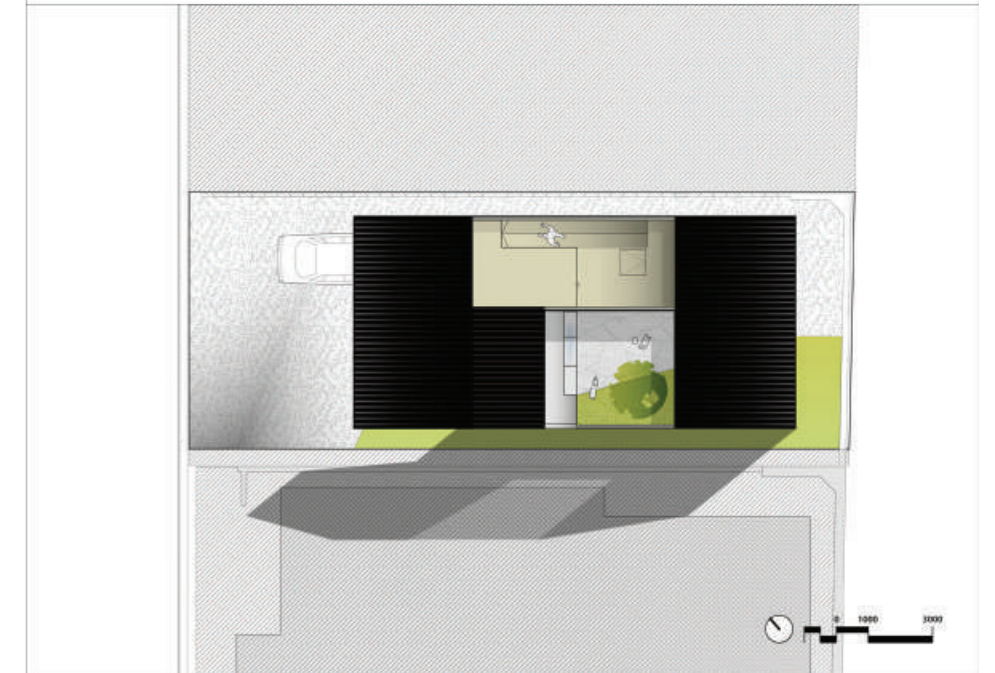
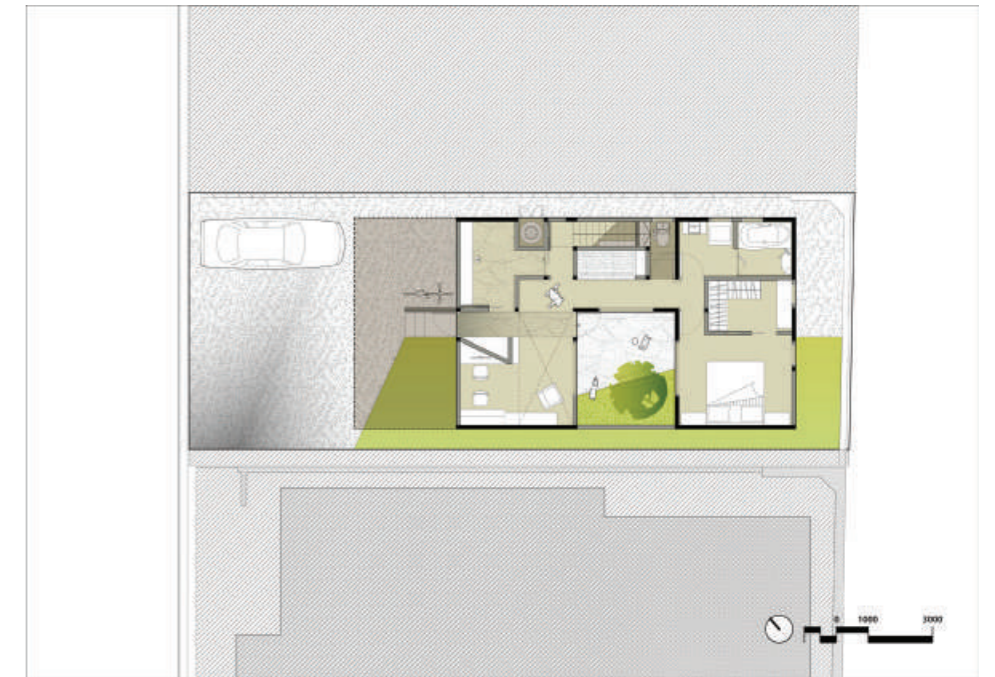
The solution to push the Public program to the upper level was obvious with the need to accommodate parking for 3 cars. In addition, this offered an elevated scenic view of the park by having living/dining/kitchen at the second level. The extensive 3.2 m wooden cantilever was unusual with the norm capped at 1.5 m. The initial structural concept of using a truss floor progressed to the final structural solution; using an elegant inspiration from bridge construction and book shelf bracketing. Further reinforcement of the structure was made in the courtyard wall to reduce eccentricity of built form and thus lateral movements during earthquakes.

The outer form reflected the inner structure of the building, creating opportunities for expression of inclined surfaces. These further expressed their responses to rain-water drainage and the sublime reflection of the surrounding landscape. In order to bring views of the exterior Sakura into the dining space, an asymmetrical window ledge was purposefully built, providing a material continuity from exterior to interior and framing the picturesque view.

The idea of "Reflection" was multifarious and became a series of unfolded meanings; exterior reflection of surrounding, interior reflection of surroundings, introspective reflection spaces and reflection of the house structure.

The landscape falls into three areas, the front yard, the courtyard and the roof deck. The front yard accommodates parking for three cars and becomes the entrance frame for the house. The connecting tissue to the park relies on the structurally evolved facade that visually associates with it and uses similar ground paving material. The courtyard, an intimate private garden forms part of the environmental funnel to dissipate hot air during summer. This space further anchors the master bedroom, 1-tatami introspective room, and double volume library. The roof deck, the pinnacle of the house further heighten one's sense of place with its surroundings and provides the perfect viewing platform for both Hanami (Sakura) and Hanabi (Fireworks) festivals.

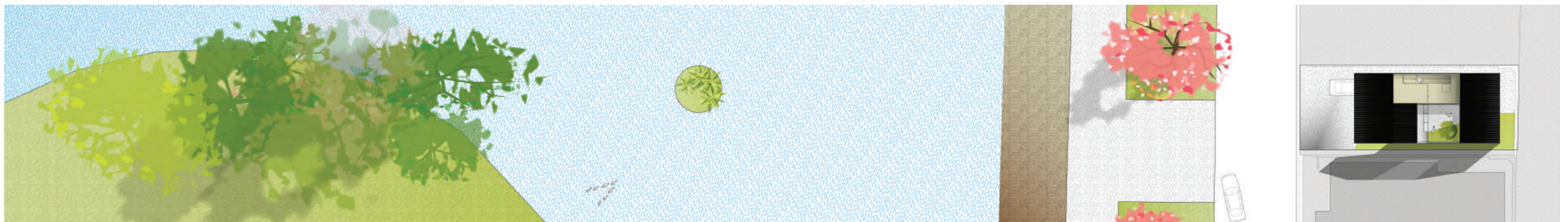
Hansha Reflection House condenses the energies on site to formulate a dwelling that looks back at the surroundings with a slight twist.



+ Building plans

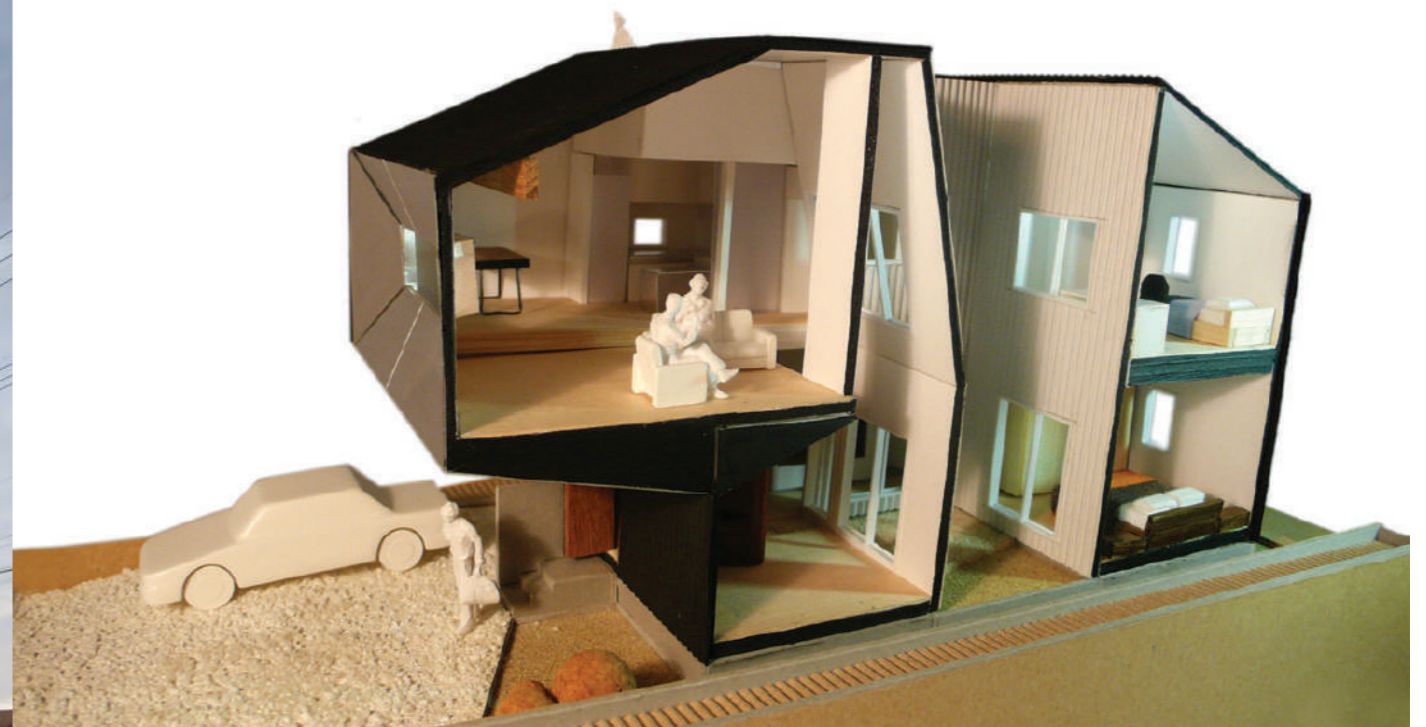


+ Context

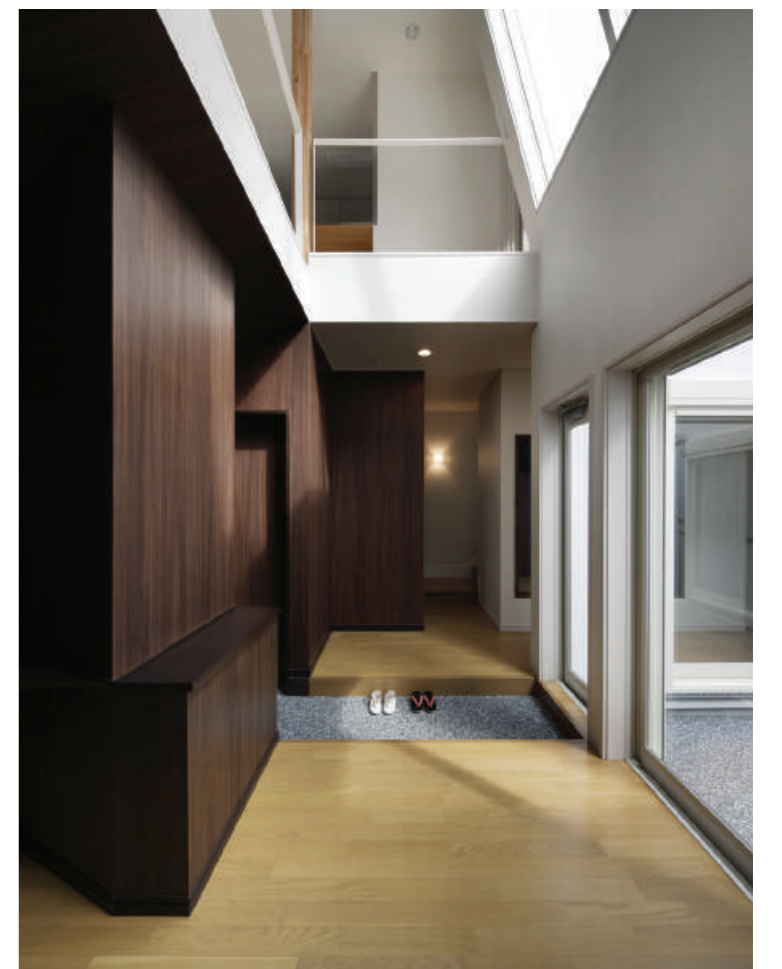


+ Site plan relationship with park



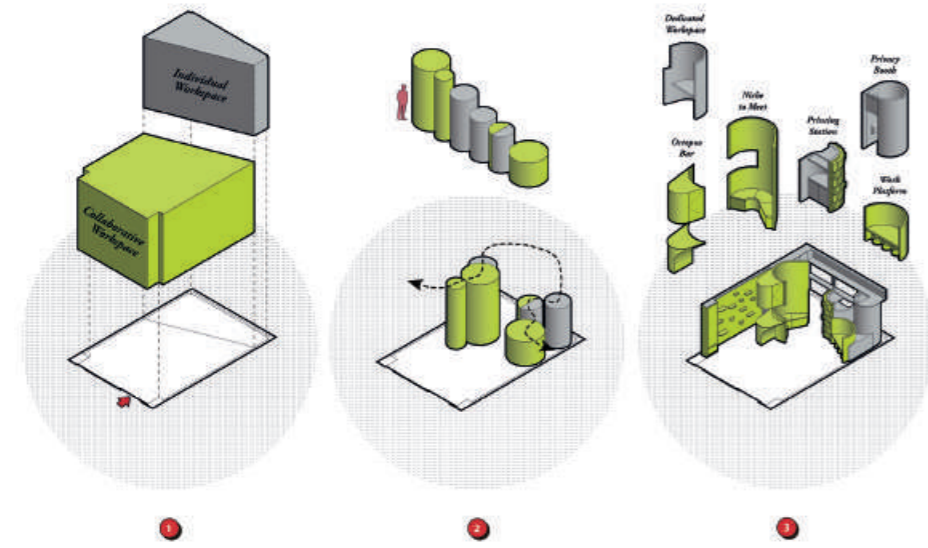






9-15-Deloitte Center for the Edge

National Design Centre, Singapore, 2020



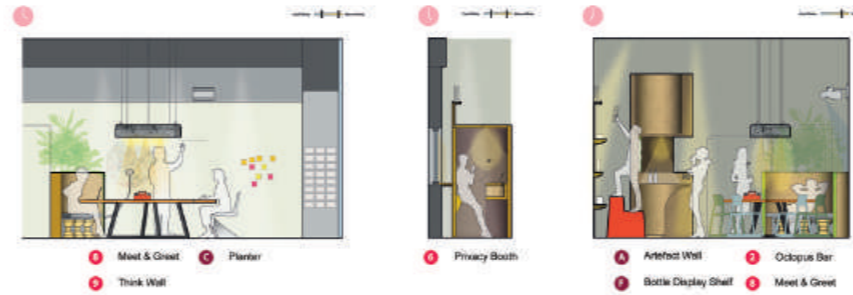
CLIENT :	Deloitte Center for the Edge (Asia-Pacific)
PROGRAM :	Interior Refurbishment (Office)
AREA :	32m ²
STATUS :	Completed
DESIGN ARCHITECT :	Studio SKLIM
TEAM :	Kevin Lim Ashwin Bafna
COLLABORATORS :	Vitra (Furniture) Affordable Abodes (Kenafcrete) Roger & Sons (Meeting Table) 42 Degrees Asia (Lighting)
PHOTOGRAPHY :	Khoo Guo Jie
COMPLETION DATE :	2020

9 agile work zones wrapped by plywood shells for a compact office.

The compact office might increasingly become ubiquitous due to the increasing requirement to work from home in the post-pandemic world. For Deloitte Center for the Edge (Asia-pacific) office in Singapore, a multitude of working spaces was conceived to accommodate a myriad of working styles. The 32 m² office is designed with an innate agility to transition from enclosures of individual concentration to collaborative spaces.

Different anthropometrical work boundaries and patterns was studied to create 9 distinct work zones:

- | | | | |
|----|------------------------|---|--|
| 1. | Soft Working | - | Comfortable sofa work seating |
| 2. | Octopus Bar | - | Bar area with easy reach for work with a drink |
| 3. | Niche to Meet | - | Niche for 2-3 persons discussion |
| 4. | Dedicated Work Station | - | Single full-height work cubicle |
| 5. | Work with View | - | Worktop with a view of the neighbourhood |
| 6. | Privacy Booth | - | Fully felt-lined privacy booth with standing desk and bum seat |



- | | | | |
|----|---------------|---|--|
| 7. | Work Platform | - | Concrete platform with more relaxed sitting options and docking niches for cork stools |
| 8. | Meet & Greet | - | Meeting table made from a local Rain Tree trunk |
| 9. | Think Wall | - | Collaborative wall with rewritable surface |

Research and studies have shown that movement improves concentration. By having the option of different zones, movement is encouraged and a variety of works zones could be used to suit different work requirements. Lighting has been programmed with different colour temperatures to subtly signal variable work/relax environments from morning to the evening (e.g. cool colour temperatures gradually transitioning to warm colour temperatures). Different work zones have been programmed with different light requirements.

The 9 work zones are strung together like jewels on a necklace, creating a continuous 'loop of working spaces'. The 'loop' is further supported with 6 ancillary spaces which includes a Felt Shelving Wall for the client's research booklets and an Artefact Wall for the display of modern day curiosities. The geometry of these spaces was derived by experimenting with the client's research booklets and this inspired the creation of curvilinear plywood shells to cuddle each work zone. The plywood shells vary in height according to sightlines and orientated at different angles to create the perception of separate zones. The taller plywood shells increase the privacy for the individual and act as health barriers between adjacent zones. Further cut-outs facilitate visual interaction and shells have are staggered to emit daylight and create visual depth.

Interactivity amongst work colleagues is likely to be one of the primary incentives for a return to the office post-pandemic. The new office remains as a hive for collaboration. The Think Wall is equipped with a writable paint surface for brainstorming sessions and discussions. The Artefact Wall functions like a modern cabinet of curiosities where curated artefacts can provoke, inspire and spark off conversations. A 100-bottle continuous display shelf provides their clients/ collaborators with a dedicated area to keep their bottles in personalised containers (inspired by the Japanese bar system of 'bottle-keep' / botorukpu).

The construction and selection of both carpentry and furniture has been geared towards sustainability and green practices. This was done by sourcing for eco-friendly materials/products such as vegan felt for felt shelving, local timber for meeting table, cork stools from Vitra and a custom made pendant lamp from kenafcrete (kenaf plant fibres with lime binder). A dedicated area for potted plants also adds a biophillic touch to the office. The design and construction process has been kept honest and rudimentary to reveal the true nature of materials such as curved layered plywood and using everyday stationary items, i.e., file binders and clips were used to assemble the Felt Shelving Wall. Construction during the pandemic lockdown was a challenge with national restrictions. This was overcome by using CNC-cut templates and utilising differential cross-border lockdown situations to mitigate the fabrication process. These were transported a short distance cross border and assembled by a small team locally.

The new office for Deloitte Center for the Edge challenges the new normal of the work environment with a wide range of work zones in a very modest footprint.





+ Model of office showing elements

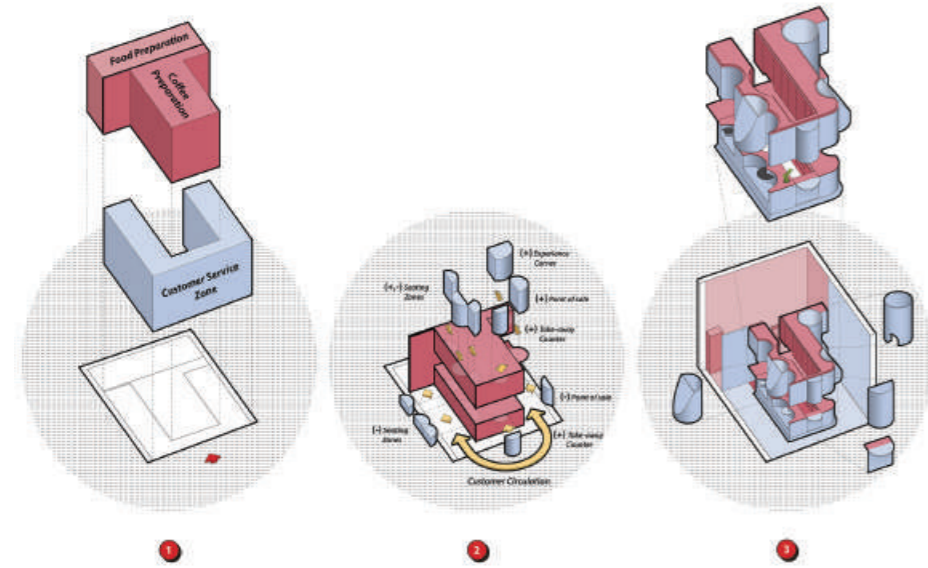


+ Modular felt pocket wall



Voids Café

River Valley, Singapore, 2019



CLIENT	:	Grace Espresso
PROGRAM	:	Interior Refurbishment (Food & Beverage)
AREA	:	28m ²
STATUS	:	Completed
DESIGN ARCHITECT	:	Studio SKLIM
TEAM	:	Kevin Lim Ashwin Bafna Svasti Agarwal Khoo Guo Jie
PHOTOGRAPHY	:	
COMPLETION DATE	:	2019



Voids are treated as form in this micro-cafe.

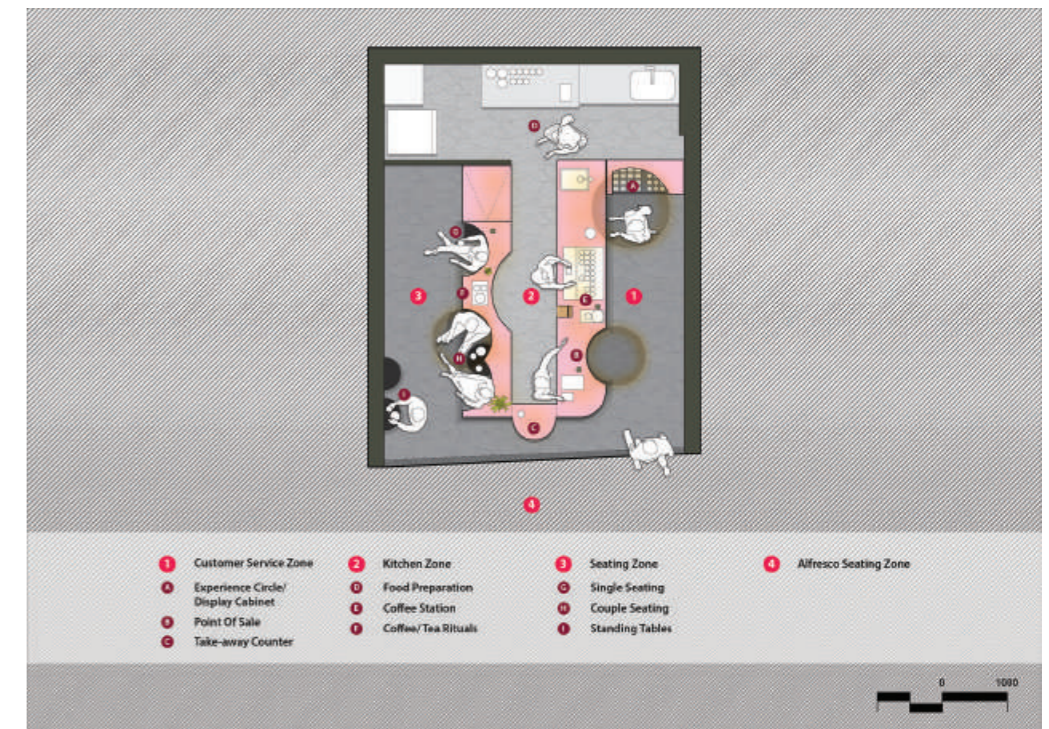
The empty space in a coffee cup or matcha bowl was the form-giving inspiration for this micro cafe spanning only 28 square metres. Negative spaces punctuate the space and circular geometries are consistently carried throughout the rest of the built form carving out seating booths, countertops, display shelves and overhanging canopies. It is a process of subtraction and addition to create the operational and anthropometrical needs of the cafe.

In this condensed space, it was essential that we balanced the numerous kitchen inventory with the customer zones, utilising every nook to add to that experience. We were able to create several working and customer zones including an experience/retail corner, a take-away counter, seating booths and even a small 'Ritual Counter' for conducting workshops and making drip coffee or bowls of powdered Japanese green tea (Matcha).

The experience circle was designed as a suspended enclosure where customers can duck under and experience the smell of different coffee grounds and tea products. Counter spaces were carved out to bring together a closer interaction between customer and barista, simultaneously bringing them in closer proximity to the coffee making process with aroma and grinding/tapping sounds. Customer seating are circular cut-outs in the concrete counters with matching petal-like tables to match.

The main powdered pink concrete counter top was custom-casted in 11 separate pieces. Amongst them a minimal surface concrete counter top for takeaways formed by using a special fabric formwork. Cracks were also purposefully cast in the concrete to allow planting to emerge from beneath, an inspiration taken from plants growing on old buildings. Circular metal tables were created to project from the walls and similarly from the concrete seating booths. The concrete counter block was visually made to be contiguous with the floor with adjoining gentle curved radii.

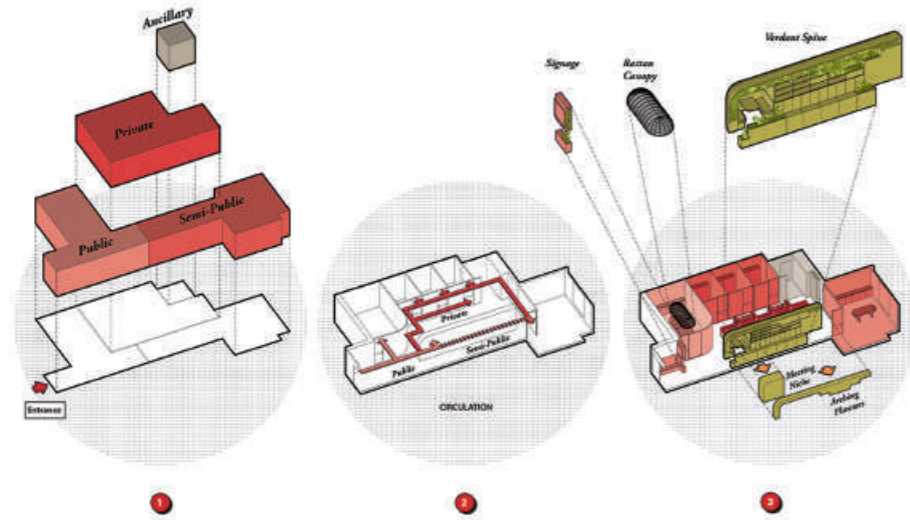
The entire volume was entirely holstered from the ceiling with no supports connecting the bottom counter top mass, giving a surreal lightness about the whole structure. The overhanging volume was also rendered in heavily textured stucco inspired from gritty coffee grounds to create an anti-gravity coffee cloud. The resultant aesthetic from subtractions and additions, creates a massing that appears fluid with its own fuzzy logic, certainly not based on any premeditated form or symbol of what a cafe should be.





Verdant Spine Office

Cecil Street, Singapore, 2019



CLIENT : Cairnhill Law LLC
 PROGRAM : Interior Refurbishment (Office)
 AREA : 135 m²
 STATUS : Completed
 DESIGN ARCHITECT : Studio SKLIM
 TEAM : Kevin Lim
 Ashwin Bafna
 Zaw Lin Htoo (Branding & Website)
 PHOTOGRAPHY : Khoo Guo Jie
 COMPLETION DATE : 2019



A verdant spine anchors the spatial organisation of an office inspired by both natural landforms and vernacular forms/materials.

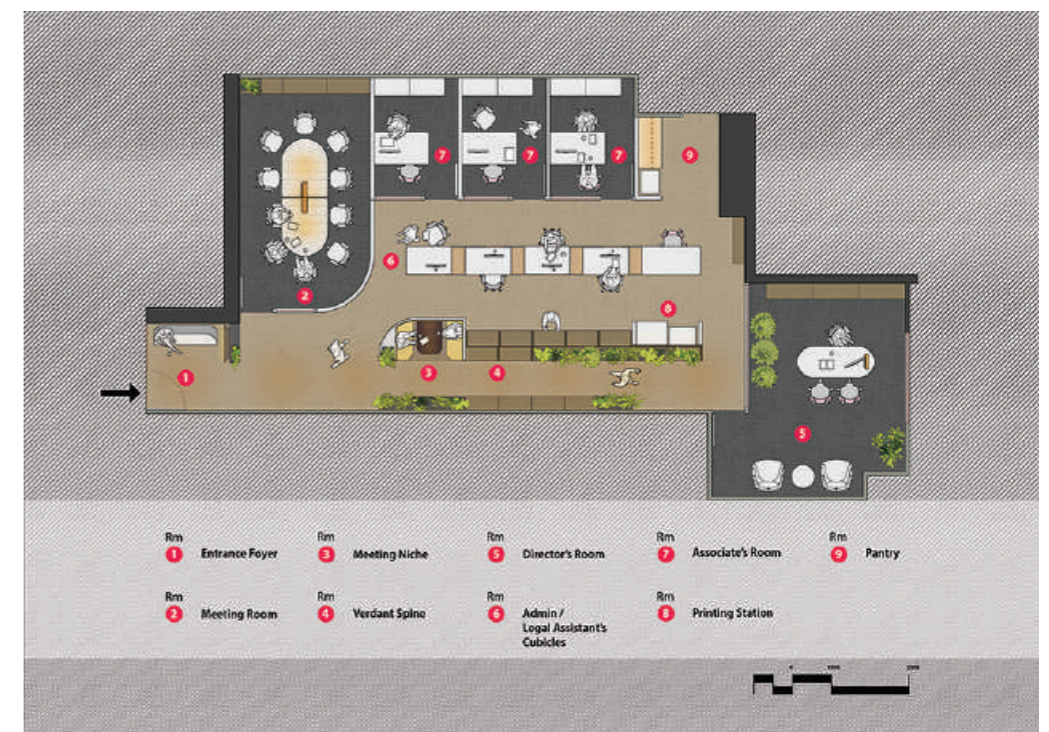
This new office for Cairnhill Law in Singapore offers a relaxed biophilic environment to a rather demanding profession. Taking cues from the overall branding strategy and name of the office, we adopted a natural palette of earthy accents and material tactility to complement the curvilinear “landforms”. We were involved in the holistic design of the office from the interior design, furniture design to the various branding elements.

The spatial organisation is anchored by a linear architectural datum which incorporates storage, shelving, printing station, an informal meeting niche and an overhanging spine of flora. The aesthetics of the greenery draws inspiration from the tropical rainforest and was intentionally designed to be on the wild side, reflective of the flora in this region. Pockets of planters were carved out from the carpentry and placed strategically to allow the vines to grow and connect through the dried lianas overtime. This verdant spine also shields the private working cluster of the office from the more public circulation of their clients. Laser-cut felt pieces from leafy abstracts were custom fabricated to provide a softer acoustical cocoon for a meeting niche and cosy break-out area.

The curvilinear geometry of the partitions and carpentry are inspired by both natural landforms and vernacular architecture. The “landform” aspect of the design takes

on a rough textured stucco finish while the architectural components are addressed in the rattan canopy structure of the meeting room and mini-privacy canopies for the work cubicles. The meeting room is an abstract of the vernacular communal longhouse. The overhanging 3m long rattan canopy was designed in tandem with the meeting table to mirror each other in dimension and 2-dimensional geometry. The contrast of the custom meeting table surface against the dark charcoal painterly walls adds to the overall atmosphere of being in a primitive hut. On a smaller scale, the work cubicles were designed to provide more visual privacy through partitions and rattan woven screens, configured to provide a balance between privacy and communication with the legal associates in their individual rooms. The utilisation of local materials and geometrical nuances was purposefully designed with the spatial branding of the office in mind as regional professionals providing personalised legal services.

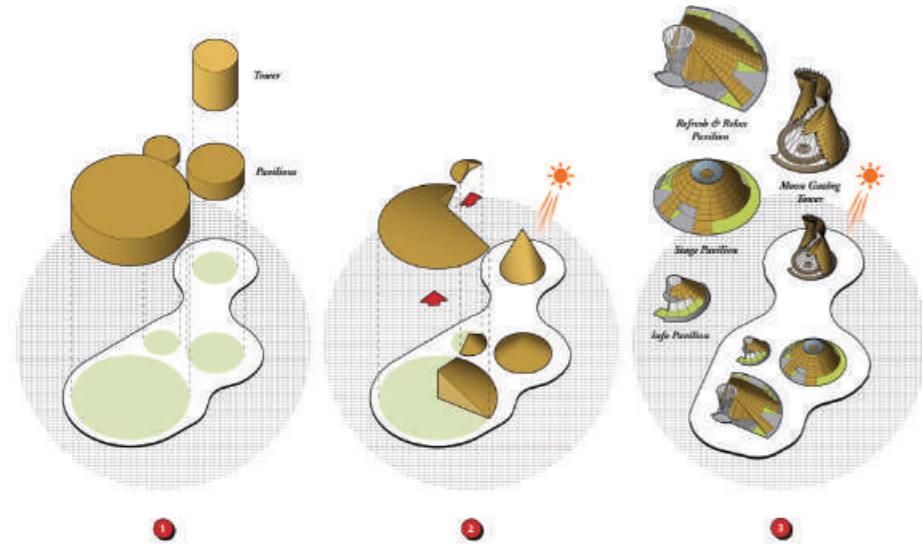
We believe in merging flora with the office environment to provide a balance between mentally demanding work and spaces that provide visual relief. The creation of this verdant spine manages the different work flows of the modern compact office by defining work zones and circulations while accommodating pockets of wild nature. We silently hope the plants will eventually take over the pockets and spread on the surfaces they now inhabit.





Bamboo Umbrella Pavilions

Bangkok, Thailand, 2018



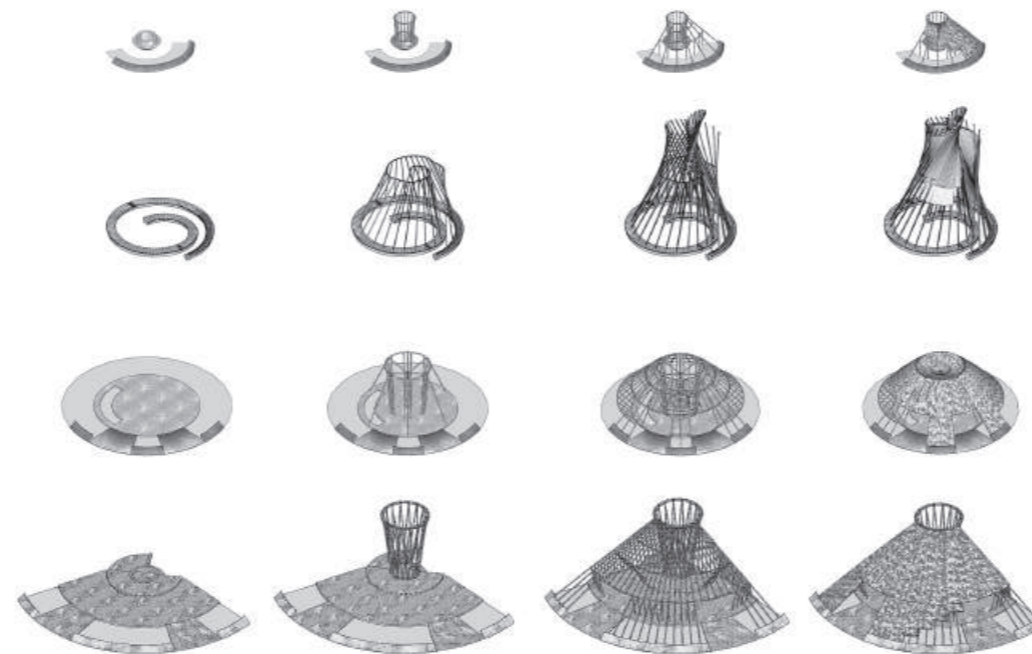
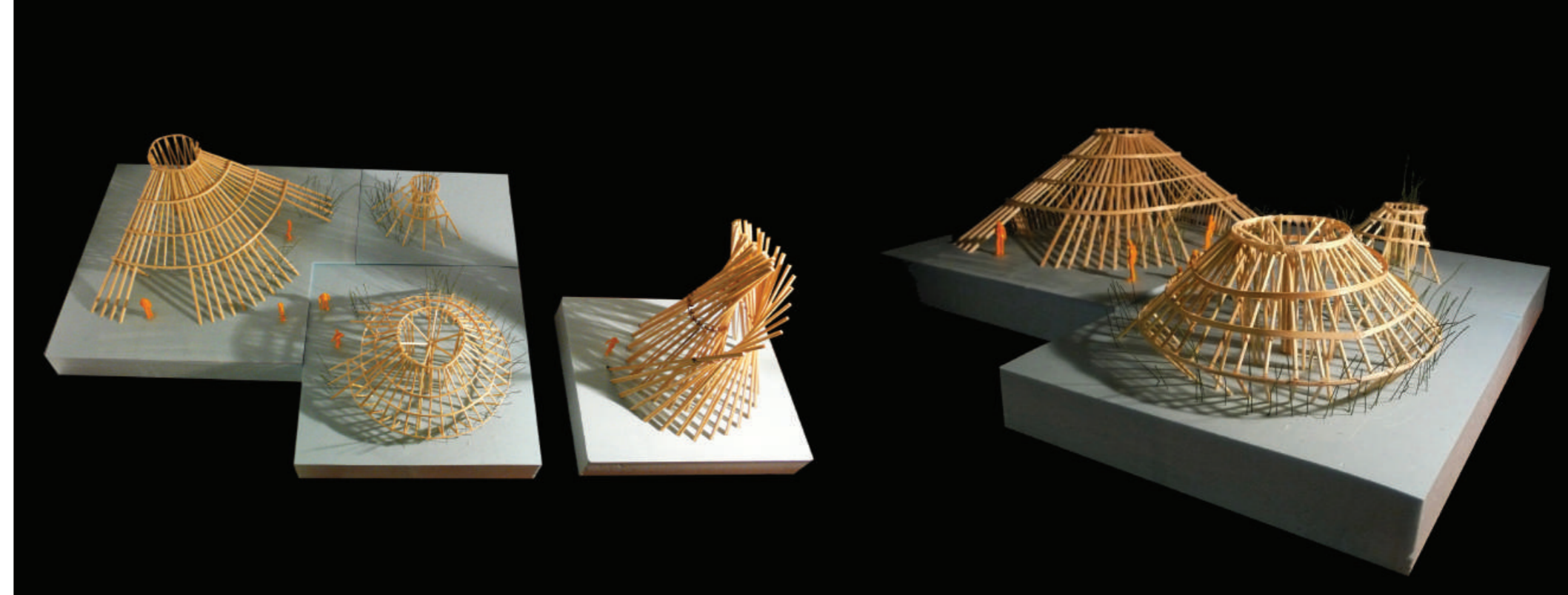
CLIENT :	Vsano Adventure Park
PROGRAM :	Architecture/Landscape (Park)
AREA :	972 m ²
STATUS :	Design Development
DESIGN ARCHITECT :	Studio SKLIM
TEAM :	Kevin Lim Josh Punpeng Pattarapol
COMPLETED DATE :	2018

Bamboo pavilions inspired by Thai umbrellas provide sustainable shelters for an adventure park.

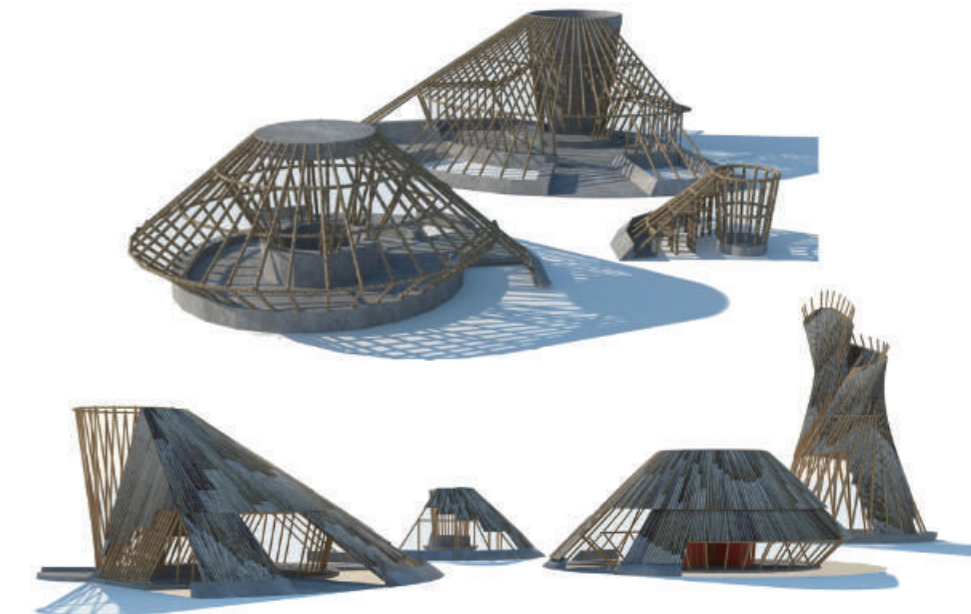
A set of 4 pavilions are sited near the entrance compound of a triathlon adventure park in Bangkok, Thailand to provide shelter for the park's activities. These pavilions house different programmes: central stage, toilets, washing facilities for bicycles, drink stations, light refreshments area, lounge, exhibition area, recuperation areas and a moon-gazing pavilion.

The form and structure was derived after studying Thai bamboo umbrellas with their centre-heavy structure and lighter cantilevered ribs. The central supporting structures of the pavilion with their structural redundancy could additionally incorporate a rainwater collection cum filtering system for the park. These central water catchment towers uses a stone filter where varying granulates of stones are layered in steel cages like gabions to remove impurities. The filtered water could be used for the washing of muddy bicycles, the general cleaning of pavements and watering of landscape.

The different sizes and heights of the pavilions vary according to their programmatic functions and shelter requirements. Solar radiation maps throughout the year were studied to determine the optimal positions for the placement of bamboo shingles.



+ Construction sequence of the 4 bamboo pavilions

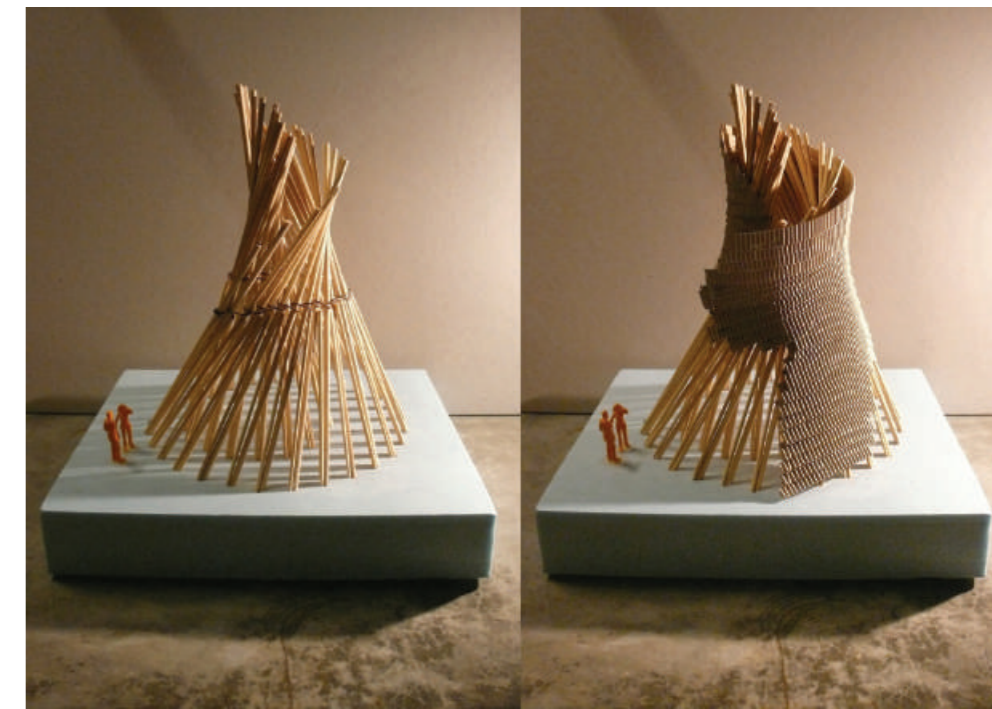


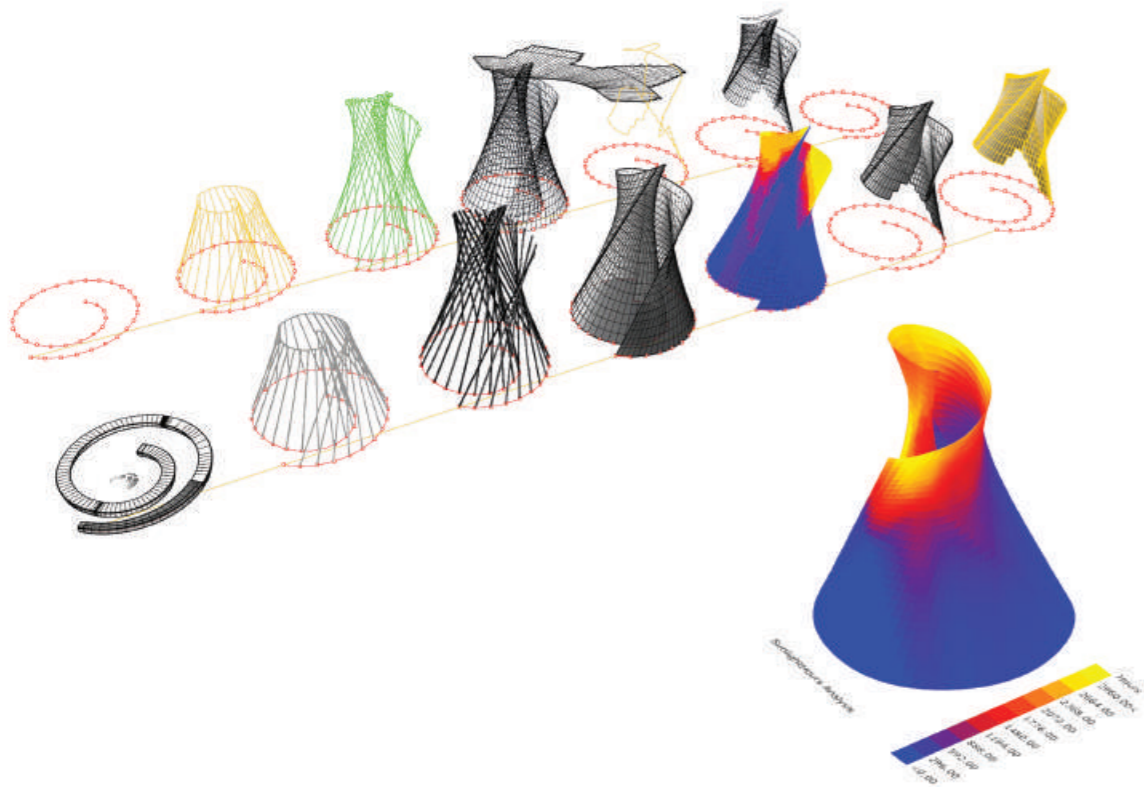
+ Moon-gazing Tower showing bare structure and bamboo shingle skin

Additional landscape planting was incorporated to provide shade and privacy.

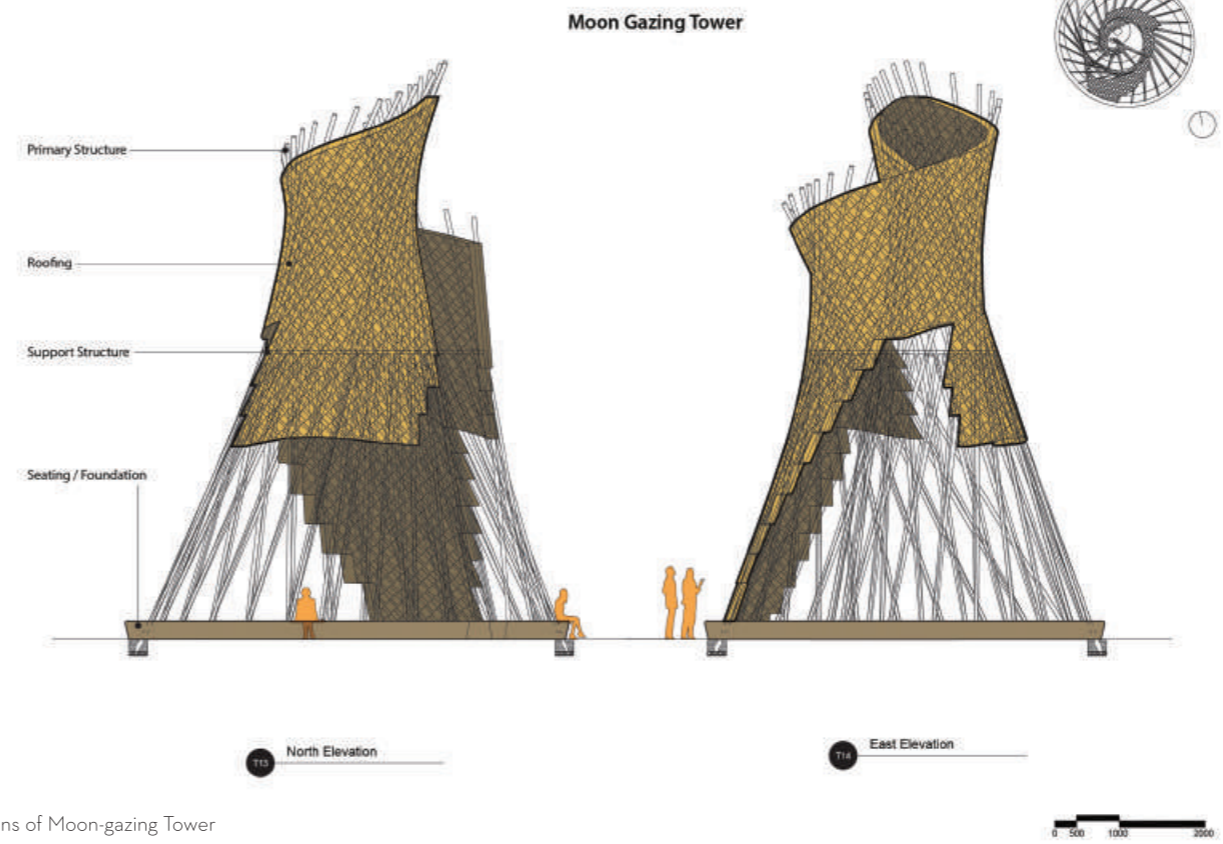
The moon-gazing tower follows a different structural configuration and utilises the physics of reciprocal structures to maintain its integrity. Visitors enter the enclosure through an opening in the spiral plan which slowly leads to the vortex of the structure which also frames the moonlit sky. Seating is provided alongside the raised concrete foundation. This moon pavilion provides a natural organic enclosure for contemplation and the metaphysics of being one with nature.

The collection of Bamboo Umbrella Pavilions provide rudimentary shelter for sports programs and also facilitate a contemplative venue for visitors to the park.





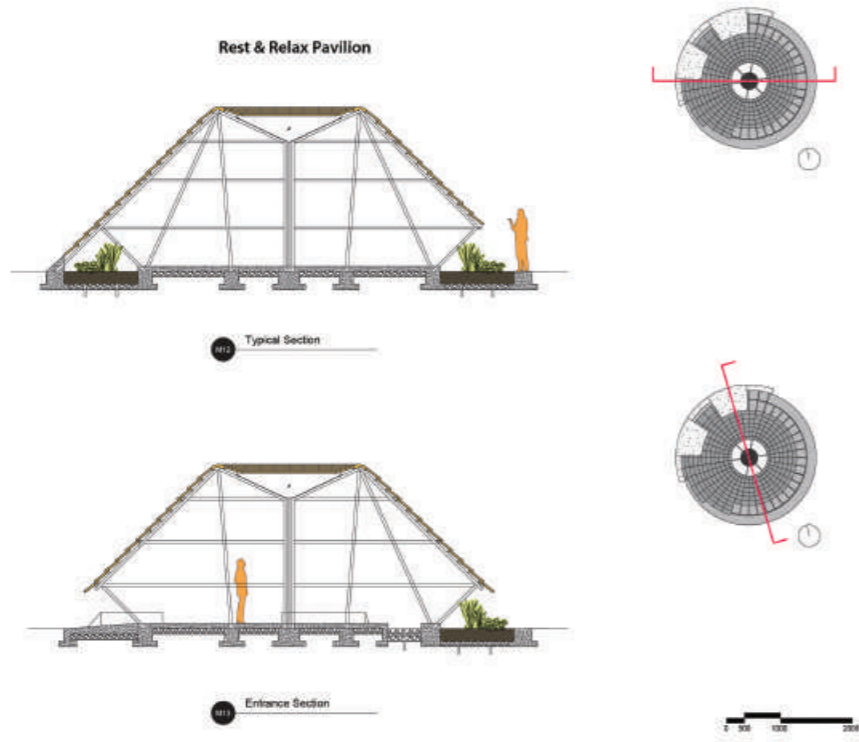
+ Determining outer boundary of bamboo shingled roof through solar radiance simulation and geometrical structural members



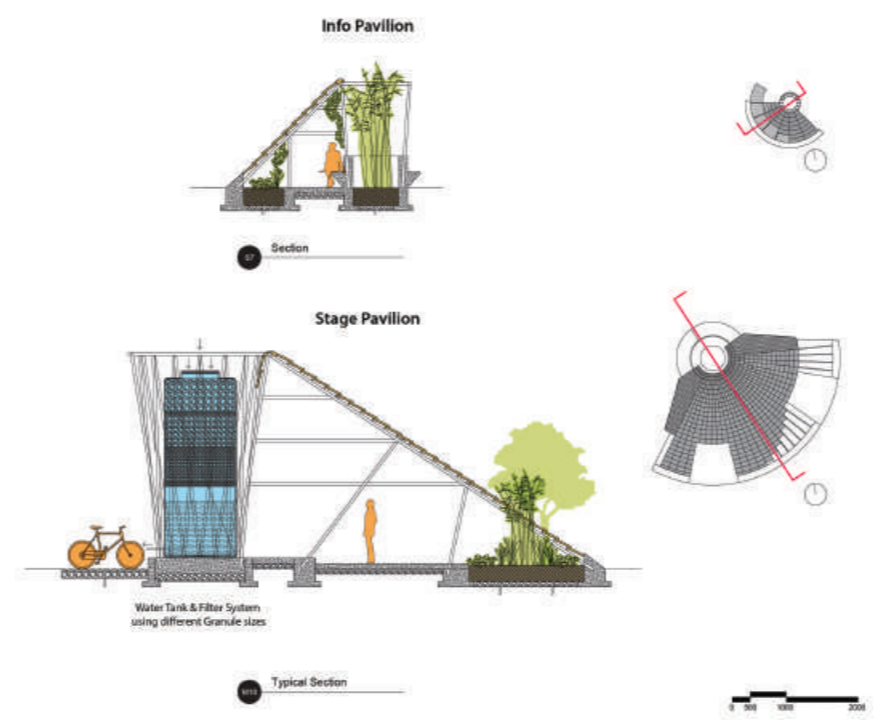
+ Sections of Moon-gazing Tower



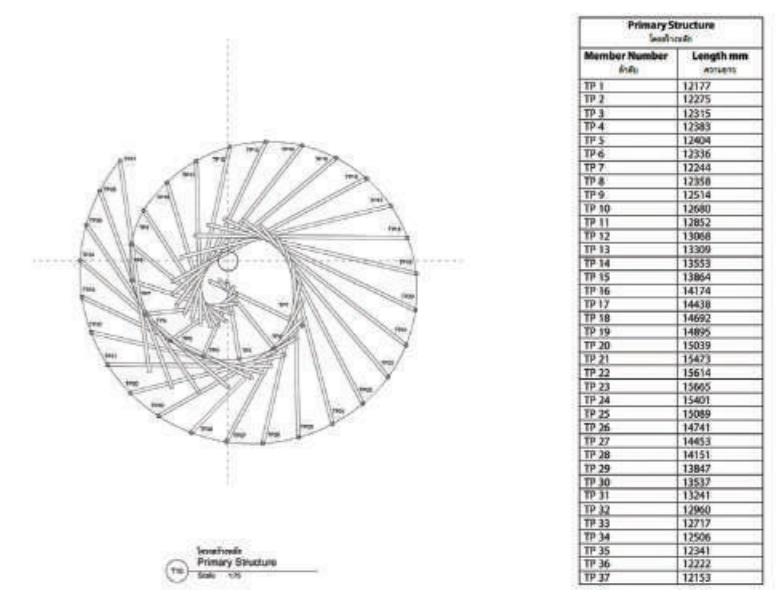
+ Study models of various pavilions with detachable skin



+ Sections of Rest & Relax Pavilion



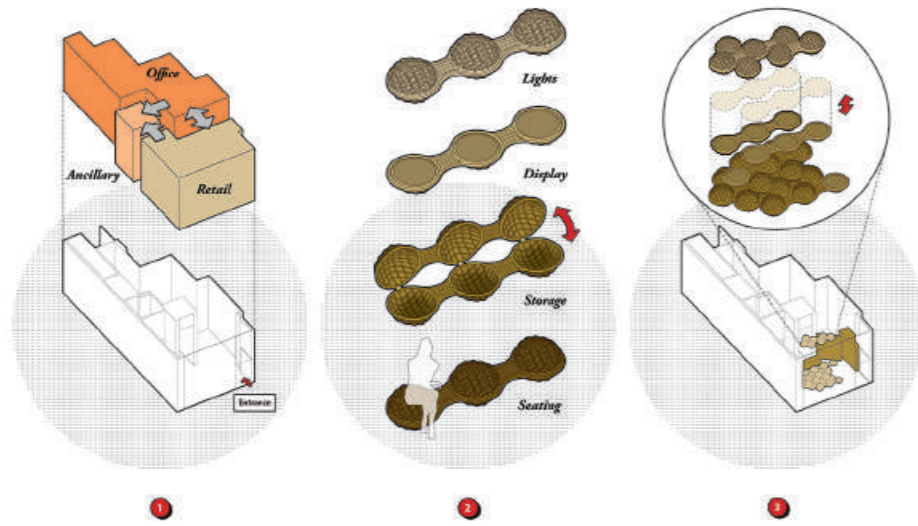
+ Sections of Info and Stage Pavilions - showing central water-catchment stone filter



+ Dimension catalogue of 37 primary structural members

Rattan Clouds

Jalan Besar, Singapore, 2015



CLIENT :	Emporium of Modern Man
PROGRAM :	Interior Refurbishment (Retail/Office)
AREA :	68 m ²
STATUS :	Completed
DESIGN ARCHITECT :	Studio SKLIM
TEAM :	Kevin Lim Beatrice Ong
	Playback Studio - Michael Yeoh (Animation)
PHOTOGRAPHY :	Khoo Guo Jie
COMPLETED DATE :	2015

Rattan Clouds is a collection of modular rattan capsules configured for seating, storage, display and lighting.

Inspired by the traditional South-east Asian rattan receptacles, Rattan Clouds reinterprets rattan in new modern forms for a retail shop.

A ground floor unit with lofty 4.7m ceiling space was to house both retail and office facilities for Emporium of Modern Man - a shop that sells lifestyle goods for modern-day sensibilities. Shop frontage was naturally prioritised for retail and the office facilities were pushed backwards with an adjoining access through a giant central pivot wall/door. The approach to the dividing partitions was minimal and light; white human-height wall/door with storage cabinets and a floating concrete sales counter.

The retail was to have a non-permanence quality with flexible options to accommodate exhibitions, installations and gatherings. Capitalising on the high ceiling space, some of these capsules would be suspended and lowered/raised to accommodate different events.

Working with traditional rattan craftsmen and using existing techniques of bending rattan according to different curvatures, Rattan Clouds was designed to meet multi-configurability, functionality and structural integrity. The initial spherical concept of containing an object was developed to form 2-3 piece modules that could be stacked to create multi-layered displays. Arched rattan also formed a strong base



for seating. These Clouds were also made operable to create a split level for storage and display. In the various permutations of the basic form, half-spheres of these modules were removed to form flat surfaces for display. These modules were held up by a system of brass pulleys and stainless steel wires that could be lowered/raised by hand cranks. The last permutation of the module was to house halo-like illuminations that created shadow textures.

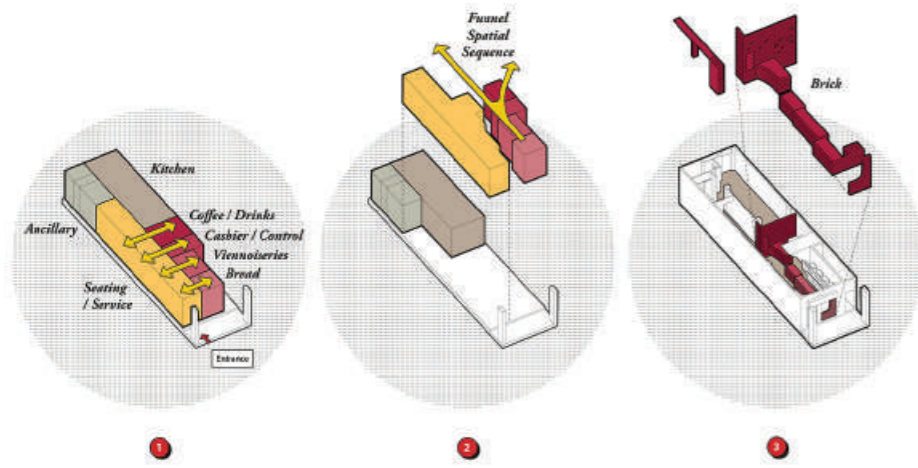
Rattan Clouds are a flexible, modular system that shifts according to the multi-usability of the space, adding a light ephemeral touch to the retail experience





Brick Bakery

Keong Siak, Singapore, 2014



CLIENT :	Bread & Hearth
PROGRAM :	Interior Refurbishment (Food & Beverage)
AREA :	100 m ²
STATUS :	Completed
DESIGN ARCHITECT :	Studio SKLIM
TEAM :	Kevin Lim Irwin Ho
PHOTOGRAPHY :	Khoo Guo Jie
COMPLETION DATE :	2014



Brick is pushed to its boundaries as a building block and brand identity for an artisanal bakery.

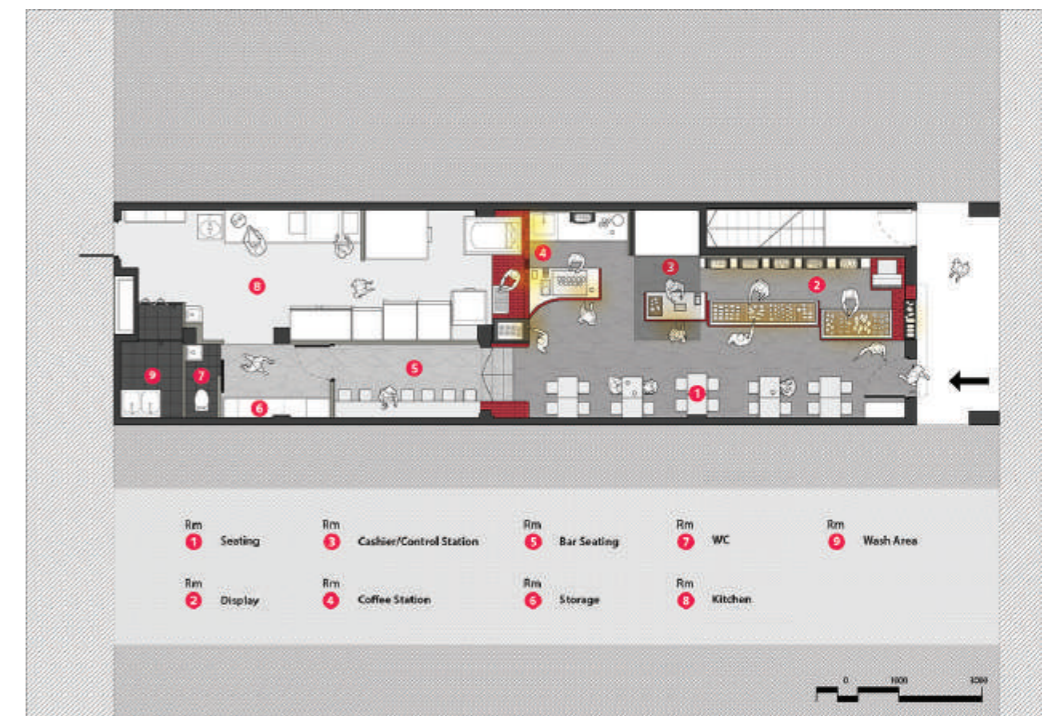
Nestled in the heart of the former red-light quarters of Keong Saik Road, Singapore and amongst gentrified shophouses resides "Bread & Hearth" - an artisanal bakery.

Taking branding cues from the bakery's name, brick was chosen as the ubiquitous material to construct most of the spatial concepts. Bricks are predominantly used as architectural building blocks. In this instance, the material configures itself to form both exterior/interior, structural/non-structural elements in the form of frontage, counter tops, ventilation holes, furniture, partitions and floor. The limits of the material are tested with both linear and double curvature geometries, construction joints and tiling patterns.

Programmatically, the functions of seating, display, service, kitchen and back of house are distinctly lined up in a linear configuration due to the nature of the shop house. The spatial sequence upon entry is almost funnel like and slowly opens up to a full-fledged brick wall with a geometrically challenging coffee station. Each block of brick counter houses a distinct function (Bread, Viennoiseries, Cashier/Control Centre, and Coffee Station) and is staggered to permit more standing space and interaction with the baked products. Bricks are strategically removed from the dividing kitchen wall to permit both smells and visual sightlines to the inner workings of the kitchen.

To permit a greater flexibility in the arrangement of bread displays, pegboard was used to line an entire wall. Custom canvas shelves were also designed as miniature hammocks to display the bread in linen bags, creating a softer and playful contrast to the hard edged brick modules. In reference to the character of the shophouse, the underside of the wooden stairs was intentionally expressed and reinterpreted as the menu board for the bakery.

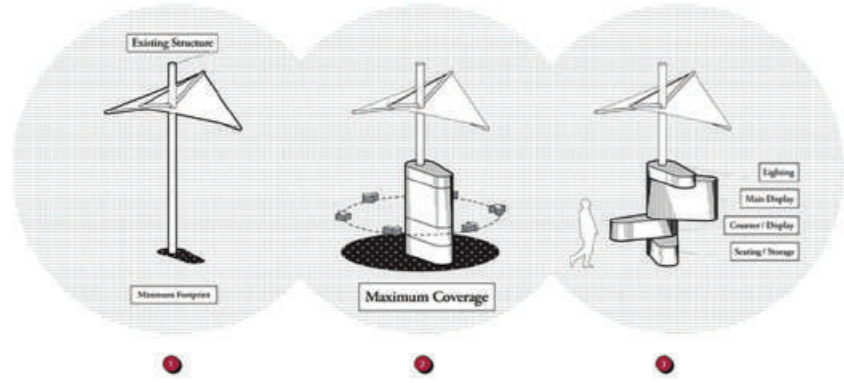
The craft in artisanal bakery was taken as a reference for the details in the shop which included a variety brick tiling methods and also reflected in the choice of custom furniture. The free-standing tables and stools take reference from the traditional craft of constructing furniture with mortise and tendon joints, further adding to the atmosphere of craft and detail synonymous with the craft of baking.





360° Kiosks

Singapore River, Singapore, 2007



CLIENT	:	The Fullerton Hotel
PROGRAM	:	:6 units of Retail Kiosks (Commercial / Landscape)
AREA	:	39.6 m ² , 6.6 m ² each
STATUS	:	Completed
DESIGN ARCHITECT	:	Studio SKLIM
TEAM	:	Kevin Lim
PHOTOGRAPHY	:	Jeremy San
COMPLETED DATE	:	2007

360° kiosks utilise rotating sections to transform a narrow site for adaptive reuse.

The proposed site for the 360° Kiosks rests on the stretch of land sandwiched between the historical Anderson Bridge and a conservation project - Water Boathouse (a restaurant refurbishment of a former British port office). This pier was the original site of the Singaporean icon, the Merlion till 2002 when it was relocated to the Merlion Park. This narrow strip of land is approximately 35 m long and ranges from 7m to 13 m in width. There are at present 6 tensile membrane canopy structures providing shade at varying heights. Studio SKLIM decided to tackle this tight challenge and the 360° kiosks were born.

The 360° kiosks were evolved from three main criteria:

- Minimum footprint and maximum flexibility.
- Centripetal configuration to existing structures for pedestrian circulation to be maintained.
- Usage of existing services such as electrical outlets, night lighting to avoid additional electrical rerouting and to share existing energy resources.

The 360° Kiosks utilise the biological concept of commensalism and apply this structurally. The structural independence of the existing canopy structures was each



maintained without sacrificing their existing structural integrity. A series of both top and bottom roller bearings aid in the mobility of the individual units while the new supporting structure was welded to the existing columns and the new loads transferred to the existing foundation. The 360° Kiosks were thus “grafted” with the cantilevered units completing the transformation.

Each individual kiosk consists of 4 cantilevered units for seating, display, storage and lighting. Taking reference from the Asian aesthetic of maximum display surface and individual adaptation, the 360° kiosks use a multitude of strategies to facilitate their commercial viability. Products are stored in drawers with shelving units that can be pulled out to maximize display surface just like the Swiss army penknife. Each 360° kiosk can be personalized to each of the tenant’s needs, creating a dynamic visual performance when each kiosk undergoes transformation. While planning for various functions and performances was on the design agenda, the kiosks were also appropriated by users in their own way, thus unfolding a new series of “unplanned” user patterns.





**STUDIO
SKLIM**

t +65 6293 6275
w www.sklim.com

[318C King George's Avenue](#)
[King George's Building](#)
[Singapore 208563](#)

Ashwin Bafna
Associate

m +91 99 529 373 08
e bafnaa@sklim.com

[89 Harrington road](#)
[Shenoy Nagar](#)
[Chennai 600030, India](#)