

Winners Announced For “The Tiny House 2024 Architecture Competition”

Archetype team - 15/04/2025

The Tiny House competition looked to celebrate individuality and sustainability through innovative designs redefining resourceful living. Through this platform, we explored the various avenues of mobile living spaces and the unbridled freedom they would offer.

In this architecture design competition, participants were tasked with designing a comfortable off-the-grid living accommodation for two people under 300 sq. ft. that not only caters to their present-day needs but also anticipates and fulfills needs from the unseen future. Participants from over 46 countries came up with their creative and sustainable design solutions to cater to this spatially challenging Architectural problem. Volume

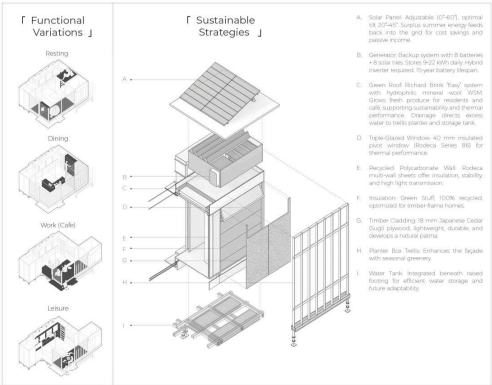
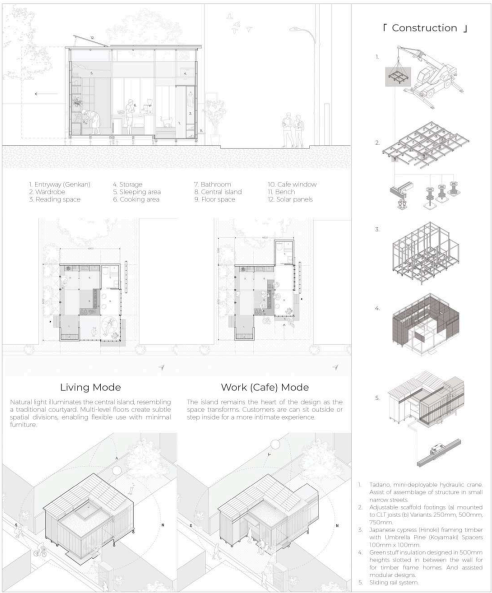
Zero Competition thanks all the competitors for participating in this competition and for contributing to this competition's research.

The esteemed jury for judging this competition consisted of **Carlos Patrón** (Taco taller de), **Dinesh Suthar** (Design Work Group), **Fran Silvestre** (Fran Silvestre Arquitectos), **NguyenDang Anh Dung** (AD + studio), **Rayne Fouché** (FouchéArchitects), **Realrich Sjarief** (RAW), **Rohit Mankar** (Architecture Brio), **Ülar Mark** (Kodasema), **Di Zhan** (F.O.G. Architecture), **Anagha Patil & Sanjay Patil** (Environ Planners), **Fati Fakhr** (ZAV Architects), **Jon Gentry** (GO'C).

The top three winners and Best Student were awarded total prize money of \$4,500 while ten entries received Honorable Mentions. Here are the winning entries.

FIRST PLACE

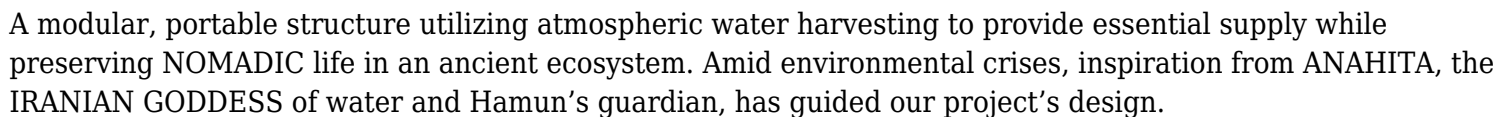
Shifting Space - Harris Qaiser and Annie Cheng (New Zealand)



In Tokyo’s dense urban landscape, “Shifting Space” addresses the pressing issues of rising housing costs and limited land with a dynamic, multifunctional solution. This modular tiny home integrates residential and café functions, fostering a flexible environment for living, working, and community engagement.

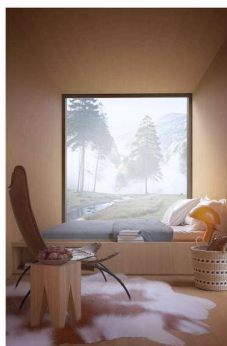
Sliding partitions and adaptable layouts enable effortless transitions between living and work modes, maximizing a minimal footprint. A central, courtyard-inspired island anchors the space, enhancing connectivity and fluidity. Passive design strategies, off-the-grid systems, and a green roof ensure both sustainability and long-term economic viability. Mobility further enhances adaptability, allowing users to reoccupy the space for entrepreneurial ventures or evolving lifestyles.

Water Hunter - Arash Madani, Elaheh Ashoori & Fatemeh Zarini (Iran)



AI, IOT, BCI centrally manage the house as a network. This intelligent system uses IoT data to adjust moisture-absorbing fabrics, opening or closing them based on weather. It also optimizes tasks such as energy production, house assembly, and interior adjustments. Additionally, BCI lets users control and personalize the house using their thoughts. This integration provides a smart, sustainable, and futuristic living solution.

Revolve - Stephen Centorrino & Owen Axisa (Malta)

[illegible][illegible]

PASSIVE STRATEGIES

WINTER

Section A-A
Scale 1:100

SUMMER

Section A-A
Scale 1:100

A. The solar chimney absorbs heat from the winter sun.
B. The chimney (A) is located in the upper corner of the house.
C. The trapped heat creates a pressure buildup. This forces **warm** air to circulate throughout, displacing cooler air on the other side.
D. A breezy front **door** runs the circulating air, maintaining low comfort.
To prevent air stagnation, the winter door can be occasionally kept open to allow fresh ventilation.

A. The solar chimney absorbs heat from the sun, creating the air in the upper part because it is warm.
B. Through the front top (A) it expels the warm air, creating a pressure differential that draws in **cooler** air from the bottom corner (A) & expels inside air on the second corner (A).
C. This continuous air flow indirectly enhances cooling in the summer corner.
D. On summer days, all windows can be opened in the sun corner, transferring B.

3. MODULAR

REVOLVE is made up of 6 modular elements. These modular units are robust & combined with according to their specific needs, preferences, & occupancy. REVOLVE can be configured according to the number of occupants.

Case (x1) Shower (x1) Service (x1) Living (x2) Kitchen (panoravista) (x2) Sleeping + Storage (x2)

3. PROCESS

1. Initial configuration 2. Transport by land or air 3. Minimal footprint 4. Rotation mechanism 5. Modules are stable 6. Live on your terms

Initial configuration of modules & components to include

Minimal footprint – Rotation mechanism

Transport by land or air

Modules are stable in 6 degrees of freedom

Live on your terms. The only chair that can be configured to suit your needs.

5. ROTATION CAPABILITY

REVOLVE can adapt to the user's needs by changing the layout of the built-in furniture and the horizontal planes on various levels. However, the orientation of the forms ultimately remains the user's choice.

MORNING & NIGHT

At sunrise, the balconies form a shade to make maximum use of the light. At night, a screen extends to block light, providing maximum protection for restful sleep.

MIDDAY

The workspace & kitchen area align with the sunniest light, boosting productivity with natural light.

EVENING

The home chooses to align the relationship between the working space and the sunset, mitigating the effects of evening blue light from electronic screens.

6. ADAPTABILITY

Building adaptability and variations in form, material, and color are essential to not only comply with user requirements, but also to design a user-centric experience.

7. LOCATION

While in this example REVOLVE is shown fixed in the location, it can be modified to suit occupancy at user requirements. This allows the design to adapt to various locations, whether in a city or in a rural area.

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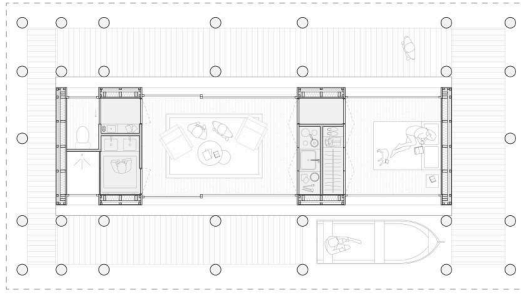
CULTURE IS STRUCTURE - Arthur Legrain (France)

This is a house for mussel farmers where the elements of mussel culture are structural components of the house. Between the shores of the Baie de la Fresnaye, in northern France, vast mussel farms form a mesh of poles that stretch as far as the eye can see across the seascape. This area is subject to major tides, which completely change the landscape according to sea level. These thousands of posts, known as "bouchots", are where French mussels are born and grow between March and June.

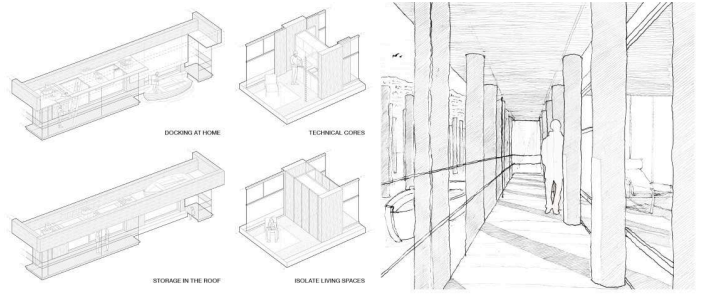
Subtly positioned above the high tide level, the house slips between this existing grid. Our farmer can access it directly with his boat at high tide, or by a hidden staircase at low tide. The floor plan features three living areas separated by two thick walls of storage. Each living area opens onto a span of bouchots.

The massive roof has a structural and technical role, holding onto the rearing posts and providing a large storage area for the mussel farmer's equipment. A footbridge runs around the house, providing an open-air space with a panoramic view of the landscape. The whole structure is made of wood, to match the material of the "bouchots". Various assemblies are used to embed the house.

SYSTEM PROPOSITION ON SITE | 1 : 1000

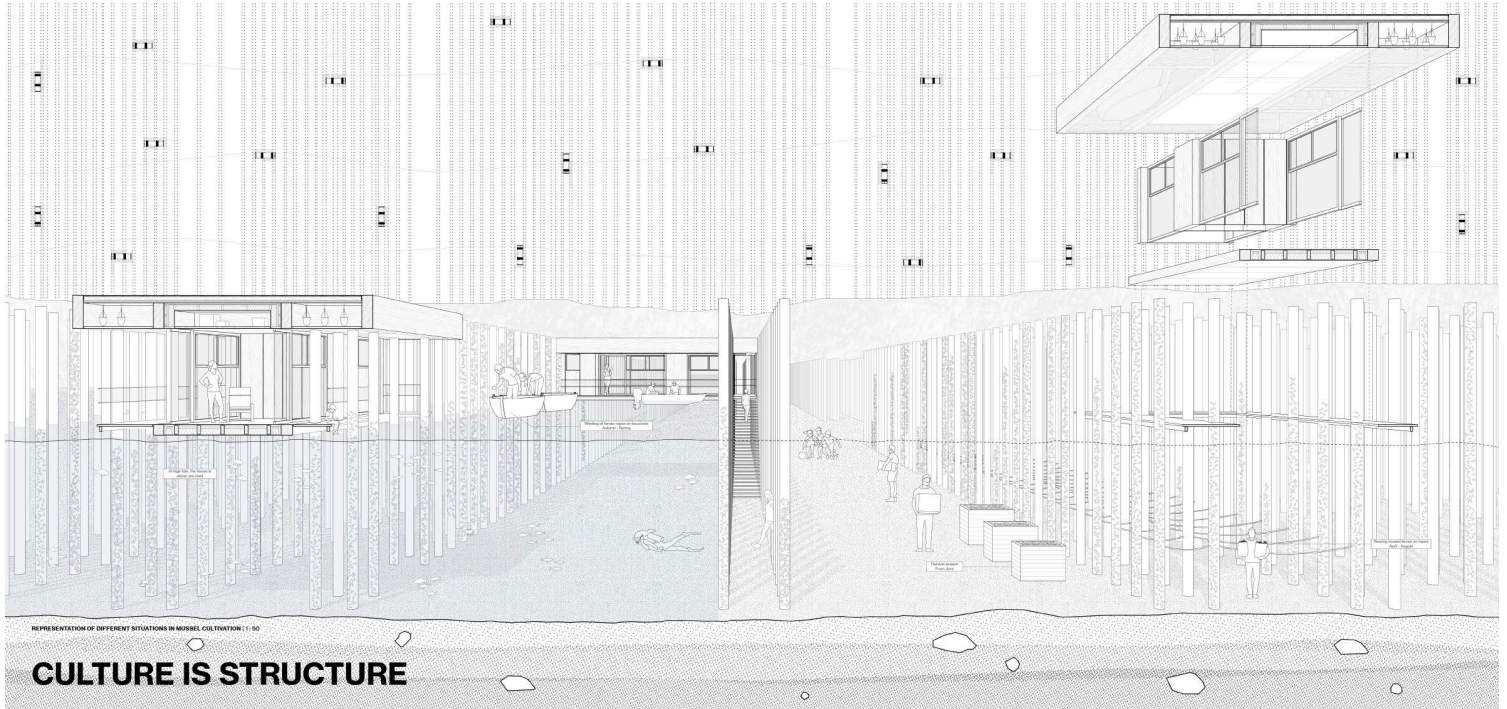


LIVING BETWEEN THE BOUCHOTS | 1 : 50



USE THE THICKNESSES | DIFFERENT ROLES

HAND SKETCH | VIEW FROM THE FOOTBRIDGE



REPRESENTATION OF DIFFERENT SITUATIONS IN MUSSEL CULTIVATION | 1 : 50

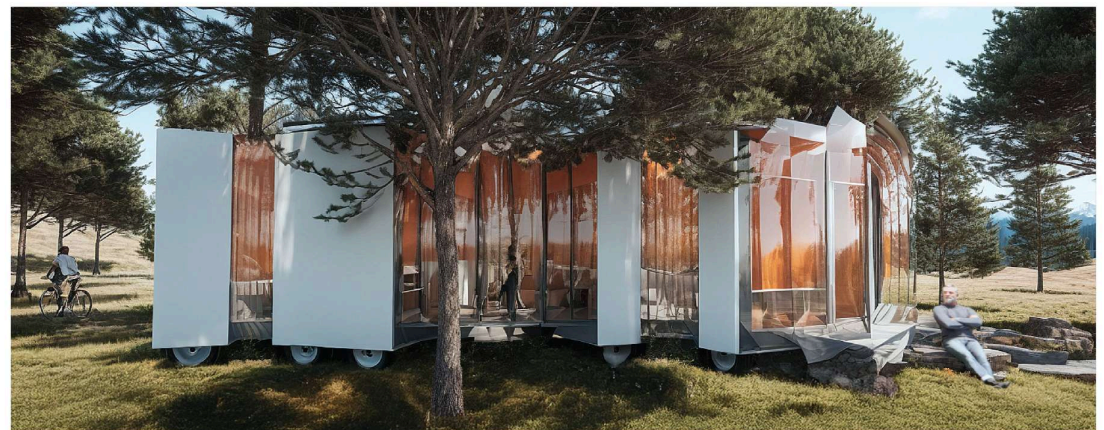
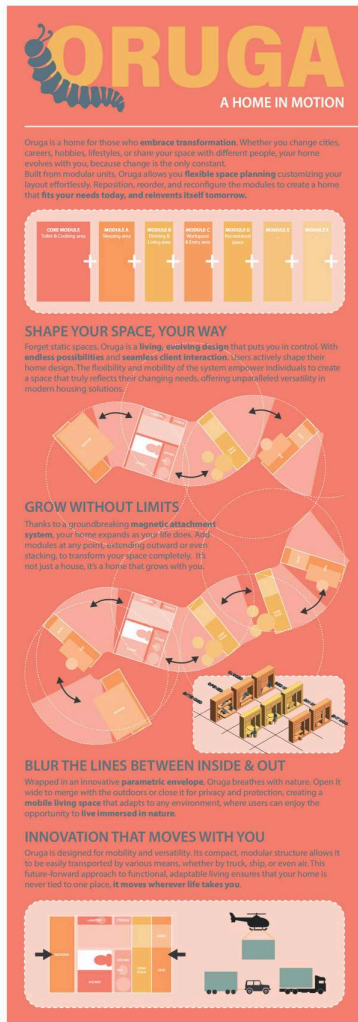
CULTURE IS STRUCTURE

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Honourable Mentions: Honourable Mention 1

ORUGA - Paola edid Diaz (Argentina)



Honourable Mention 2

CASA REGIA - Felipe Oliva, Camila Antonia Aguilar Cavieres and Arih Siqueira (Chile)

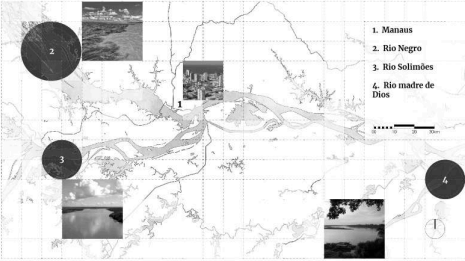
CASA RÉGIA

Casa Régia is a self-sustaining, floatable house designed for rivers and lakes in tropical rainforests, with a particular focus on the Amazon. Inspired by the adaptive qualities of local water lilies (the Vitoria Régia), the project offers a resilient alternative for off-grid living in this challenging environment.

In 2024, Manaus, the largest city along the Amazon River, recorded 2,880 cases of Dengue and 5,962 cases of Malaria, with numbers increasing each year. Rather than avoiding these high-risk areas, Casa Régia serves as a mobile research and medical support station for entomologists and healthcare professionals. Its modular design allows it to be transported by boat, enabling access to remote communities in need of medical assistance. This house could also be of interest to cooks, fishermen and digital nomads who want to explore this indomitable area.

The Amazon River as an answer

The amazon rainforest is a natural resource that must be preserved, and it's naturally impossible to think of a horizontal expansion of amazonian cities. Casa Régia tries to eliminate the necessity of deforestation and takes advantage of the natural river flow.

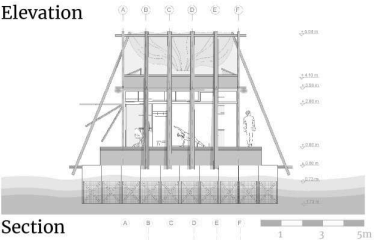


Users

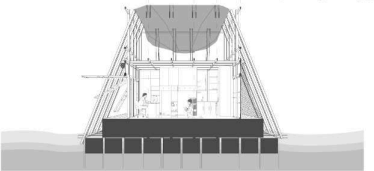
The couple could take advantage of both their individual hobbies and careers with the spaces of the house, equipped with two offices and leisure areas.



Elevation



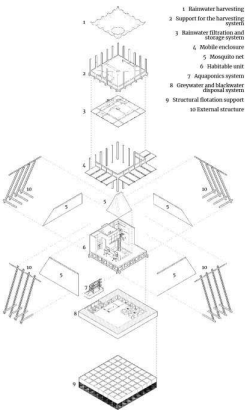
Section



The System

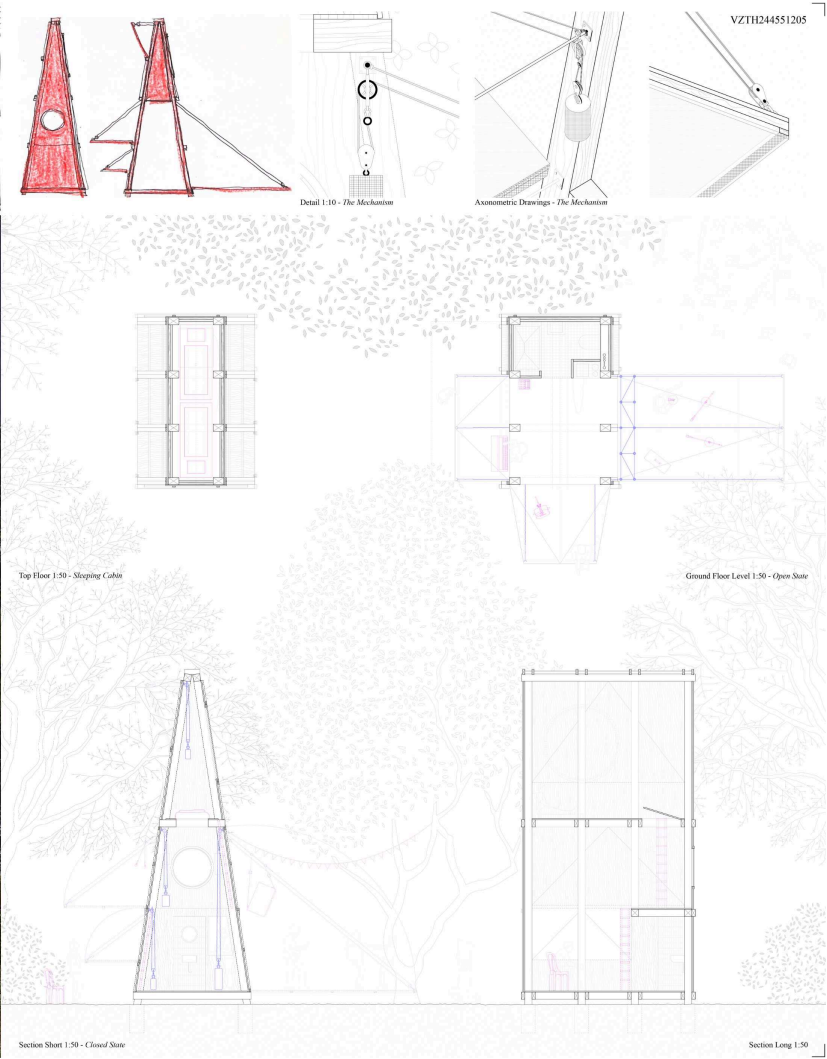
The structure integrates a tensile roof system that facilitates rainwater collection, operable walls optimize natural ventilation during high-temperature seasons. Mosquito nets on the facades provide protection at night, and a surrounding dock offers space for boat mooring. Additionally, an external aquaponics system sustainably produces food by utilizing fish waste in a floor-level tank, ensuring long-term self-sufficiency.

Cities of the Amazon often get resources from container ships that follow along the river stream, the materials of Casa Régia all fit in an international container of 12.19m long by 2.44m wide and 2.59m high.



Honourable Mention 3

Maison-Scene - Nike Schoenfeld (France)

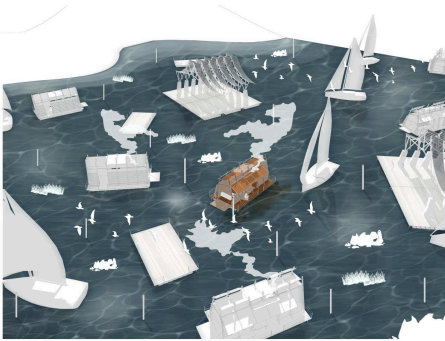


Honourable Mention 4

FLOATING NEST - Rahij Muhammad, Shaheer Ahmed and Burhan ud Din Patan Wala (Pakistan)

FLOATING NEST

RESILIENT FLOATING ARCHITECTURE FOR A CHANGING CLIMATE



CONTEXT

The proposed mobile tiny house along the Indus River is designed to be sustainable, off-grid, and flood-resistant. It is an innovative floating structure that rises with floodwaters, ensuring safety while blending with the natural surroundings.

LOWER PUNJAB & SINDH

PLAN VIEW

LEGEND

1. LIVING/WORKSPACE

2. SLEEPING AREA

3. BATHROOM

4. COOKING AREA

5. STORAGE

6. OUTDOOR SITTING

7. VERTICAL FARMING

PROCESS/ CONCEPT

Made from local, eco-friendly materials like bamboo and cross laminated timber, the house reduces its carbon footprint and fits harmoniously into the environment. Equipped with solar panels for energy and a dynamic facade for well-ventilated space, the home promotes self-sufficiency and sustainability, its elevated foundation and buoyant materials protect it from floods, while patios make the house float in case of flood. The tiny house can also serve as an ecotourism attraction, bringing visitors interested in sustainable living and supporting the local economy.

AXONOMETRIC

SOLAR PANELS

BAMBOO MATTS

INSULATED PANELS

CLT FRAME STRUCTURE

RAILING

AIR INTAKE

PLANTERS

WINDOW COVERINGS

WALLS

DECK/ PLATFORM

STORAGE & SEPTIC TANK

FLOATER CASE

HUPE FLOATERS

ANCHORED FOUNDATION

CODE NO: VZTH241350955

SECTIONS

BLOWUPS

Additionally, vertical farming with native plants will help preserve local biodiversity and help users to self sustain in case of flood emergency. This tiny house concept offers a practical solution for flood-prone areas and sets an example for future sustainable developments along the river.

Honourable Mention 5

The Water House - Maximiliano Vecchi and Andy Gonzalez (Chile)

Bee House - Stanislav Paunovic and Vera Petronijevic (Serbia)

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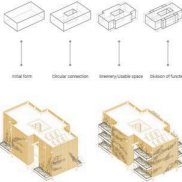
Bee House

House in nature/Nature in the house

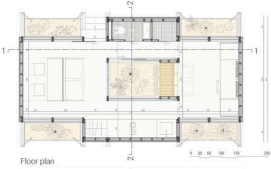
Bees are essential for life on Earth, pollinating 84% of the World's crops and 4,000 plant varieties. However, they are rapidly declining due to pesticides, disease, and habitat loss.

The Beehouse concept addresses this issue by integrating adaptable architecture with beekeeping. The tiny house features eighteen Slovenian AZ hives that allow bees to enter and exit through the atrium, while the workspace side enables safe honey collection and feeding through protective mesh screens. Beneath the hives are storage spaces and seating for apitherapy, an alternative method of medicine that uses air from beehives to improve health and treat respiratory issues.

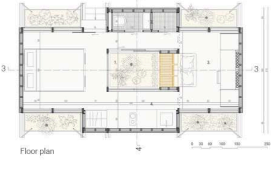
Biologists indicate that bees have the ability to create products of equally good quality regardless of the place in which they live, which led to the concept of a house capable of adapting to various environments. In natural settings, the Beehouse blends with nature, promoting pollination and honey production. In urban areas, rooftop installations increase green spaces and urban bee populations, improving garden pollination rates and raising biodiversity awareness. Living in Beehouse enhances well-being by connecting people with nature, offering a serene, sustainable ambiance that fosters harmony and comfort.



House transformability

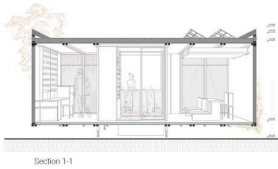


Floor plan



Floor plan

1 Living area with dining table-Sleeping area / 2 Toilet-Shower 3 / Space for working on bees-Apitherapy / 4 Kitchen



Section 1-1



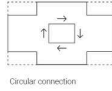
Section 2-2



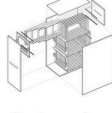
Section 3-3



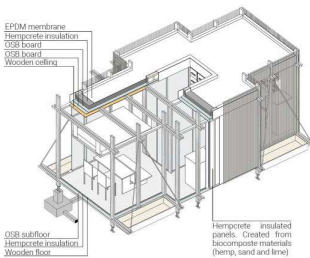
Section 4-4



Circular connection



AZ bee hive acronometric



EPDM membrane
Hempcrete insulation
OSB board
OSB board
Wooden ceiling
OSB subfloor
Hempcrete insulation
Wooden floor

Hempcrete insulated panels. Created from biocomposite materials (hemp, sand and lime)

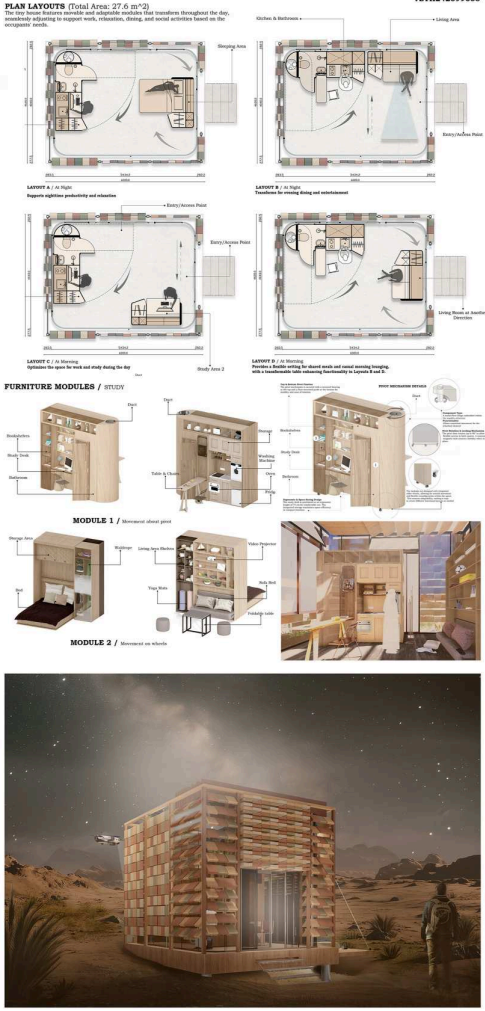
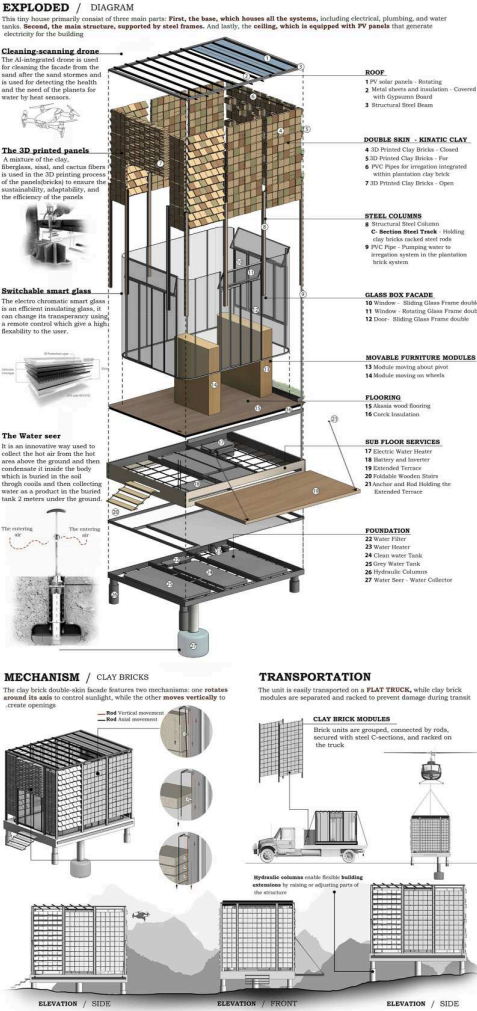


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Honourable Mention 7

Terra Hut - Nayera Mohamed Said, Yara Refaee Rabie and Abdelrahman Hussien (Egypt)



Honourable Mention 8

Airova - Jayani Mehta & Mirmalini Divakar (United States)

Airova.

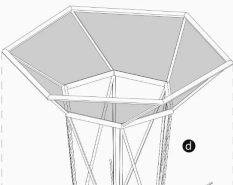
Airova is a lightweight, eco-friendly structure designed to purify air through innovative algae bioreactors. Its facade features polyurethane sheets integrated with algae reactors, seamlessly forming a hexagonal design. An embedded piping system supplies nutrients and recycled water to sustain the algae, ensuring continuous air purification and efficient functionality.

Envisioned as a stationary installation, Airova is designed to upgrade urban environments by actively improving air quality, making it particularly suited for cities like Delhi, where air pollution is a pressing crisis. By integrating nature-based solutions within the built environment, Airova contributes to the health of the ecosystem while offering a breathable, sustainable refuge.

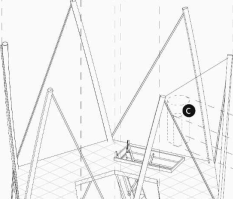
This innovative structure also serves as a tranquil living space for a simple couple running a small food kiosk, providing them with a refreshing retreat amidst the relentless pace of urban life.



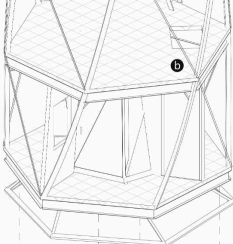
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d. The roof cap features skylights, an algae facade, and a rainwater-harvesting system. Its hollow steel structural system includes integrated drain pipes to channel recycled water to the storage tank below.



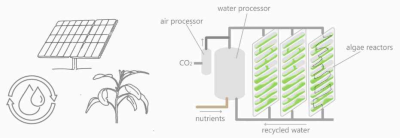
c. Algae reactors use CO₂, recycled water, and nutrients to sustain growth and photosynthesis. They absorb pollutants and release purified oxygen, which is directed into the ventilation system, improving air quality and supporting sustainable, eco-friendly design.



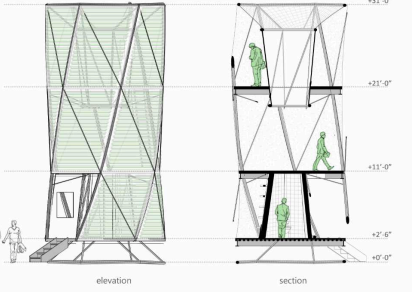
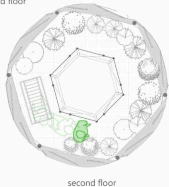
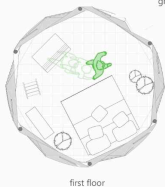
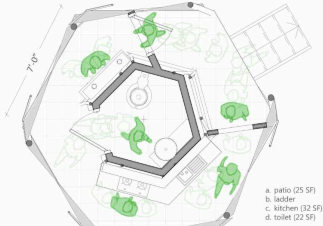
b. Services below the floor slab include an electric water heater, battery and inverter systems for backup power, and provisions for ceiling-mounted lighting, ensuring efficient and concealed functionality.



a. This compact water management system integrates water recycling, repic, rain, fog, and greywater tanks into a seamless design. The recycling tank also supports algae bioreactors, enabling air purification and sustainable resource utilisation.



The structure is off-grid due to its integrated systems: recycled water for sustainable usage, solar PV panels generating electricity, a kitchen garden on the second floor providing fresh produce, and algae reactors purifying air and utilizing recycled water. Together, these elements ensure energy and resource independence, reducing reliance on external utilities. The nutrients, CO₂, and water are supplied through pipes running through the hollow steel structure, feeding the algae bioreactors.



Honourable Mention 9

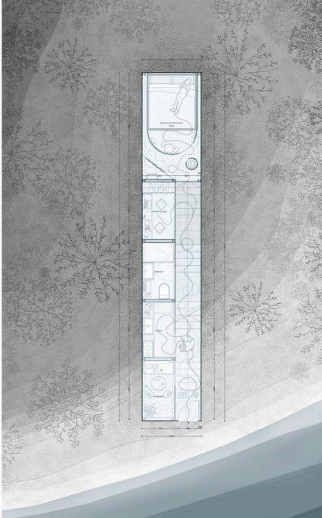
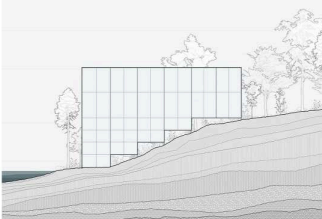
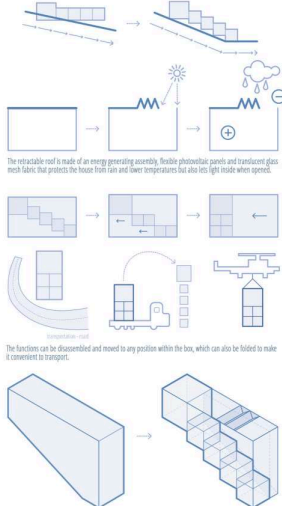
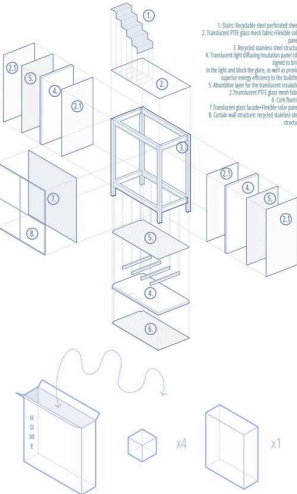
GLASS LINE - Stela Boldur and Andra Ciobanu (Romania)



GLASS LINE

LIVING IN MICRO SPACES

The proposal is represented by two antithetical terms, transparency and intimacy. This house, although made out of transparent, permeable materials that maintain a constant contact with nature, manages to compact the minimum spaces necessary for living in a "door" closed on the perimeter and opaque to the outside, thus being the intersection point between two opposing approaches. The 5 functions: living room, bedroom, kitchen, bathroom and workspace are perceived as boxes with minimal dimensions, placed according to the shape of the land and united by the circulation staircase. The delimitation of spaces is done by means of light permeable curtains that keep this compact space open, so that the real dimensions of the space are not visibly perceived. All functions are compacted in a translucent and autonomous box that generates energy through flexible solar panels sufficient for the proper functioning of the home. The box house creates an environment suitable for living in nature, being an autonomous and self-supporting, demountable assembly thanks to the lightweight metal structure that molds to the terrain without affecting it.



Honourable Mention 10

"TIFFIN" HOUSE - Nafisah Binti Ezam (Australia)

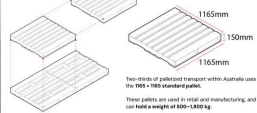


"TIFFIN" HOUSE

In the face of accelerating climate change and the growing scarcity of natural resources, this proposed innovation is an innovative response to the challenges of rural living. The 'TIFFIN' HOUSE is a modern, multi-story structure designed for rural families or two individuals seeking an affordable and sustainable lifestyle.

The design, set against the vast farming lands of Australia, combines architectural ingenuity with ecological responsibility, offering a solution that fosters food security, minimal environmental impact, and collaboration with local farmers.

Each individual, three-story module is constructed using recycled Australian pallets (1165mm x 1165mm), sourced from farmers, ensuring construction waste is repurposed, the circular economy. The house is designed to feature an elevated design to protect the earth below and allow for seamless integration with the surrounding landscape, permitting farm animals like cows and alpacas to roam freely.



By collaborating with farmers, the project not only provides affordable housing but also offers:



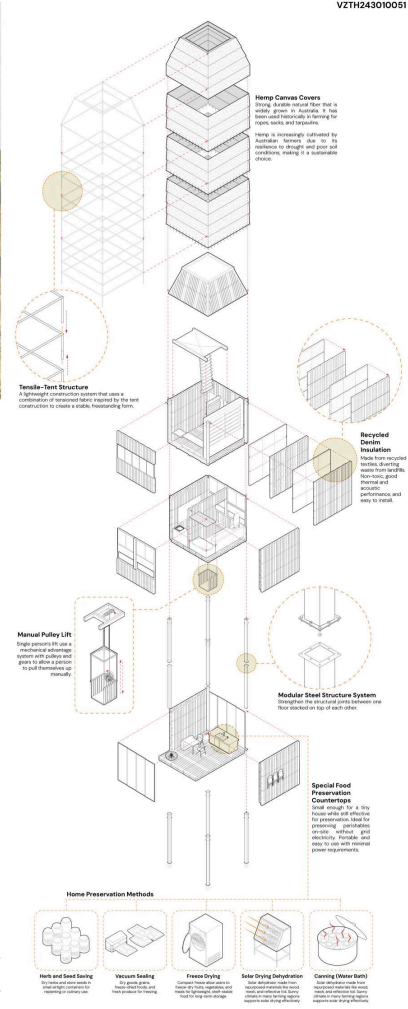
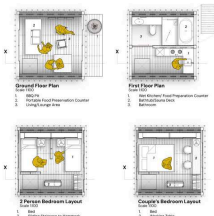
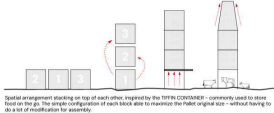
Sustainability and Livability
Recycled materials, minimal construction and compact design reduce environmental impact, ensuring harmony with the surrounding landscape.



High Access to Food
Residents can directly source fresh produce from local farms, ensuring a healthy, sustainable lifestyle.



Food Preservation Capacity
Integrated preservation features empower residents to store produce, purchase efficiently, reducing waste and enhancing food security.



Hemp Canvas Covers
Using durable natural fibers that are resistant to moisture, UV rays, and insects, hemp canvas covers the structure, ensuring longevity and sustainability.

Tensile-Tent Structure
A lightweight construction system that uses a combination of natural fibers and steel to create a stable, tensioned frame.

Recycled Denim Insulation
Made from recycled denim, this insulation provides excellent thermal and acoustic performance, ensuring a comfortable and quiet living environment.

Manual Pulley Lift
A simple, efficient system that allows residents to raise and lower the structure, providing flexibility in how the space is used.

Modular Steel Structure System
A robust, lightweight system that allows the structure to be easily moved and reconfigured, offering maximum flexibility.

Special Food Preservation Compartments
These compartments are designed to store food safely, ensuring it remains fresh and secure, even in the most challenging conditions.

Home Preservation Methods
The 'TIFFIN' HOUSE includes various methods for preserving food, such as drying, freezing, and canning, ensuring a steady supply of fresh produce.

