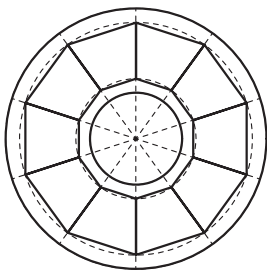
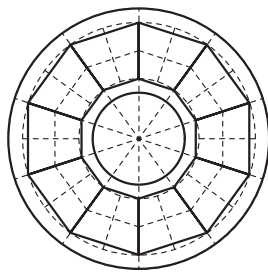


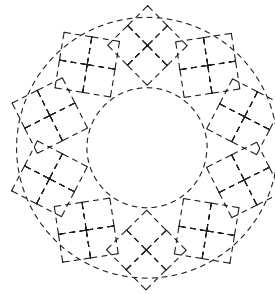
barcelona(ES) •niu• 1/4



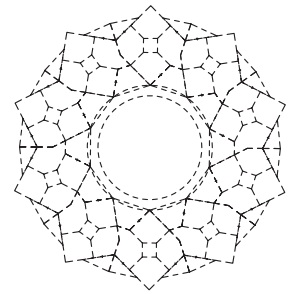
inner façade



room partitions



triple orientation
four balconies



central core

To protect themselves from bandits who attacked small rural communities, Hakka peasants in the southern province of Fujian began building the Tulou in the 12th century. These were characterised by a closed structure, generally circular in shape. In the traditional Tulou, rooms are arranged in a regular pattern around the perimeter, leaving the central space open to facilitate social activities. This layout is reminiscent of social housing blocks, making them well-suited for accommodating new residents.

Unlike fortified dwellings, this type of building **is designed to be porous and accessible**, allowing for visual connections between the interior and exterior at ground level, where public facilities interact and communicate with the immediate surroundings. The façade, made up of **adjustable louvre screens**, together with the inward-facing orientation of communal spaces, reflects the building's autonomous yet **permeable configuration**. This helps to filter light and protect against external solar radiation.

"Niu" is the Catalan word for nest. Much like a nest, a porous and circular framework generates a space to be inhabited – a **place of refuge and interaction among residents**.

The project promotes the **urban regeneration** of the neighbourhood by establishing a point of **connection between different contexts and activating multiple scales** through a strategy of self-sufficient community. This strategy considers **social cohesion**, the urban substrate, biodiversity, and **food sovereignty** – and it requires the involvement of all affected stakeholders to ensure balanced and healthy coexistence.

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The project is located at the intersection of two urban conditions: the transformation of the area from industrial fabric to residential use, and a 1960s housing estate lacking permeable, high-quality public space. The building and the urban space it generates aim to act as a hinge between these two fabrics. At the same time, it seeks to **activate a multi-disciplinary, intergenerational meeting point where current and future communities can coexist**.

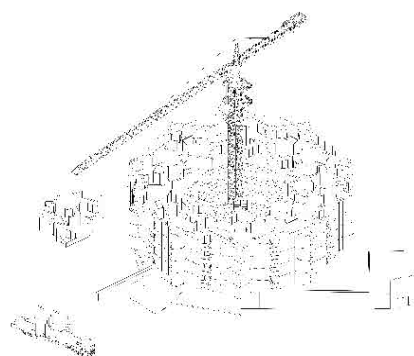
La Verneda faces a **climate emergency**, ranking among the neighbourhoods most affected by the urban **heat island effect** in Barcelona.

The Besòs River acts as a major air corridor. In Barcelona, **the embat – the sea breeze** – blows inland from the sea to the mountains during the day and reverses direction at night. Understanding this force linked to the river is key to designing a building with the greatest possible **porosity**, including an **internal courtyard that enhances the Venturi effect**

3D prefabricated modules, manufactured off-site in a workshop, are assembled dry on-site. This approach **optimises time, costs, materials, and sustainability—an added value** in line with architecture's core objective: to provide high-quality housing for its inhabitants.

The ability to fully industrialise the residential component allows **construction timelines to be better managed**. The entire in-situ concrete structure (ground floor and basement level) can be executed simultaneously with the off-site production of the dwellings. **It also enables tighter quality control and helps reduce carbon footprint, material waste, and processes that produce high levels of carbon monoxide.**

Off-site production also removes much of the noise, dust, and heavy vehicle traffic typically associated with construction, which is especially **beneficial in a well-established residential neighbourhood**. The negative impact is significantly reduced.



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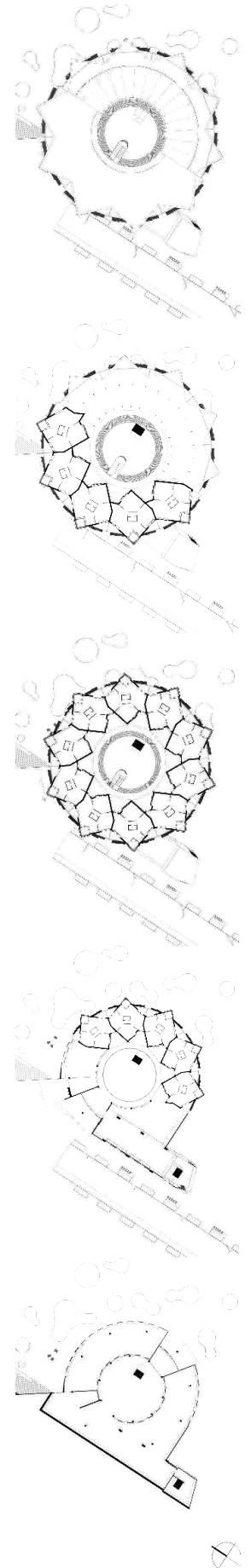
This is a building with a **constructed area of 5,810 m²** and a **site footprint of 950 m²**. With a ground floor and six upper storeys, the building accommodates **60 dwellings across six levels**, each **measuring 60 m²**, designed with non-hierarchical spaces to allow for **flexible use over time**.

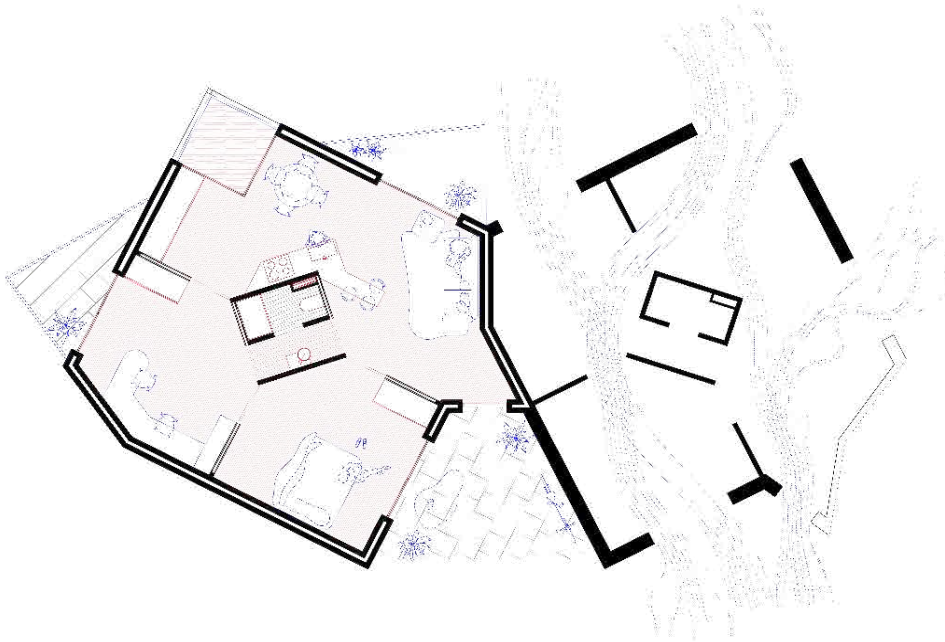
The construction is organised around a **central courtyard** that connects a series of **intermediate spaces**. On the ground floor, an open portico facing the city announces the main entrance and moderates the transition between the public space and the communal courtyard, which functions as a **small plaza** for the residents. Instead of providing direct and independent access from the façade to each entrance hall, the vertical circulation core is located at the centre of this plaza, **encouraging residents to meet and interact there**.

The building is divided into horizontal platforms that include terraces and voids, creating a more dynamic and **porous form**. The dwellings are composed of **identical modules stacked vertically**. Circulation is organised around a staircase and a lift core that lead to **concentric walkways**, forming the building's promenade, where architecture is experienced through movement.

The project is structured into three main zones:

- **The plinth**, which includes the basement and ground floor, is designed to foster social interaction within the community. It houses public facilities (obradors públics, or shared workshops) and the residents' bicycle parking area.
- **The residential zone**, from ground/first floor to the fifth/sixth floor.
- **The rooftop**, which offers a semi-outdoor terrace and greenhouse space, where food can be grown hydroponically. These crops are intended to be processed in the public workshops on the ground floor.





Using a building morphology that combines porosity and an interior courtyard, and taking air flow into account when designing the layout of the dwellings, an independent, centralised core has been positioned. This allows for **dual circulation**, connecting the open-plan kitchen and living room with the bedrooms. **The entire layout is organised around the central bathroom core and the movement of air.** At the heart of the home, the bathroom is positioned as the central nucleus, around which the rooms and circulation routes are arranged, acting as a distributor element that **eliminates the need for corridors**. **The open-plan kitchen, located in the central room, makes domestic tasks visible and helps to challenge traditional gender roles.**

Each dwelling includes an internal terrace and three balconies, each with a **different orientation towards the exterior**. This enables **maximum permeability** and allows the living spaces to extend into areas where **the boundary between inside and outside becomes blurred.**

The non-orthogonal positioning of the interior walls ensures that **at least two balconies are always visible from any point in the home**, creating the **perception of a larger living space** compared to a standard flat of the same surface area.

The sequence of interior spaces, interconnected by large openings that can be closed off using concealed **sliding doors**, **enhances the flow of air, light, sightlines and movement**. This creates **more versatile spaces that can adapt to the needs of each resident**. The generous dimensions of the rooms, combined with their ambiguous use and undefined functions, provide both **flexibility and an ideal structural bay for a timber construction system.**