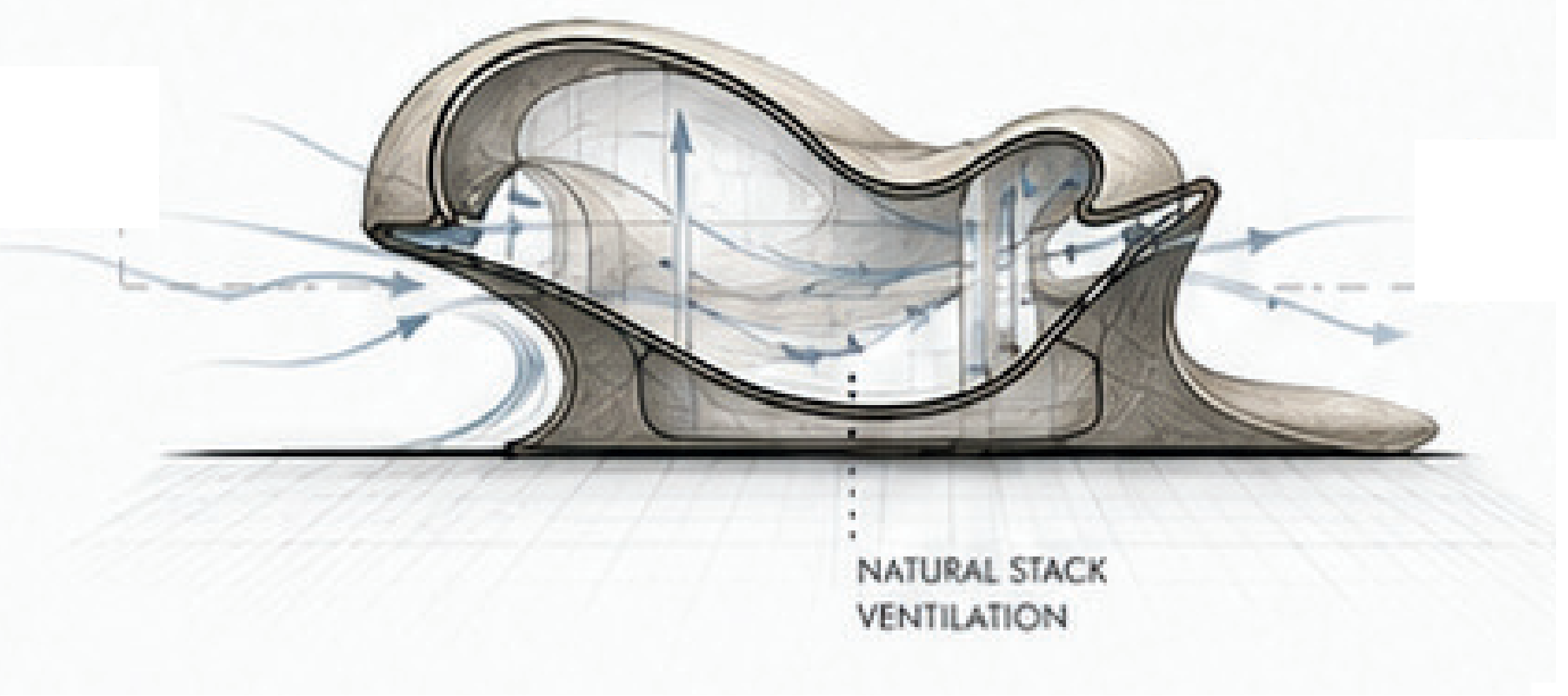
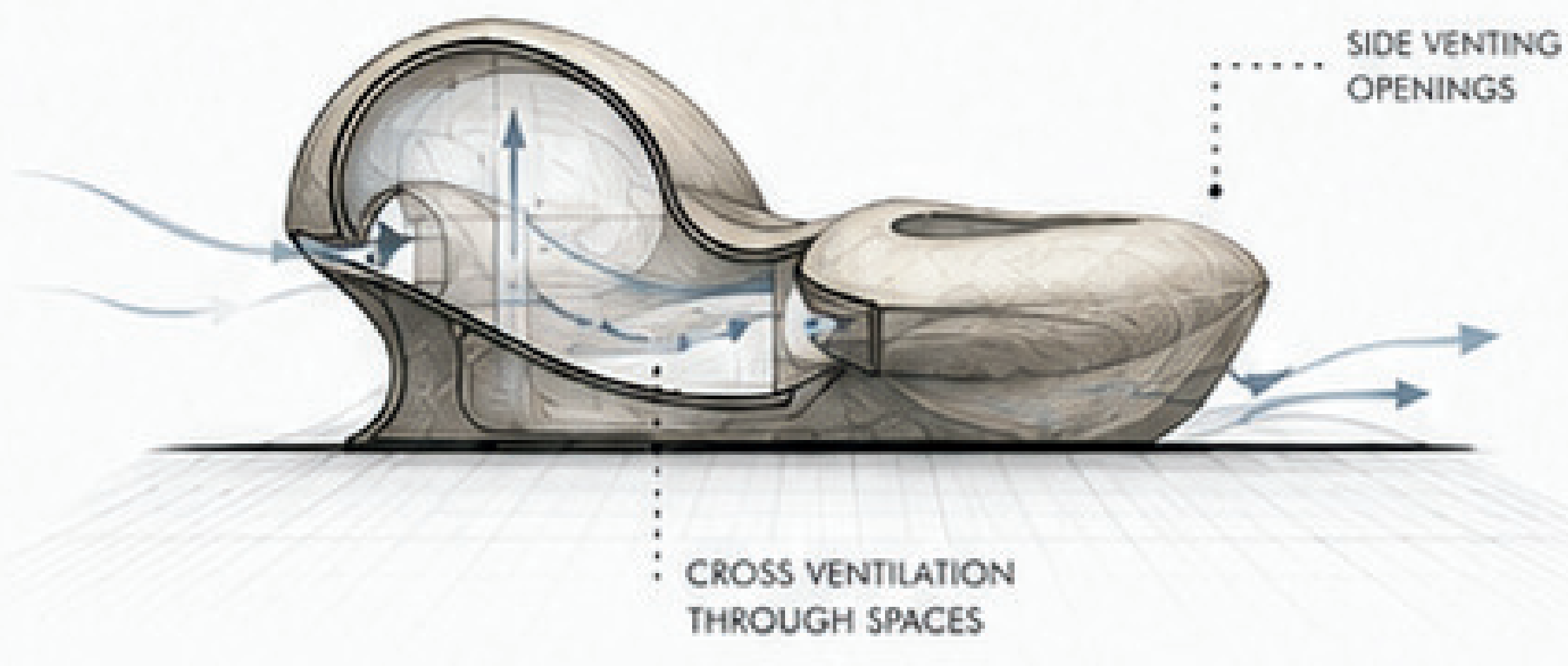
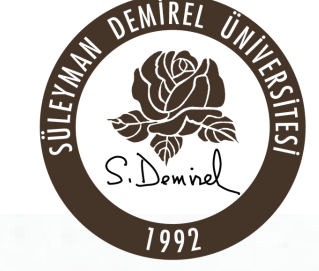




SPATIALIZATION OF RHYTHM: PULSE



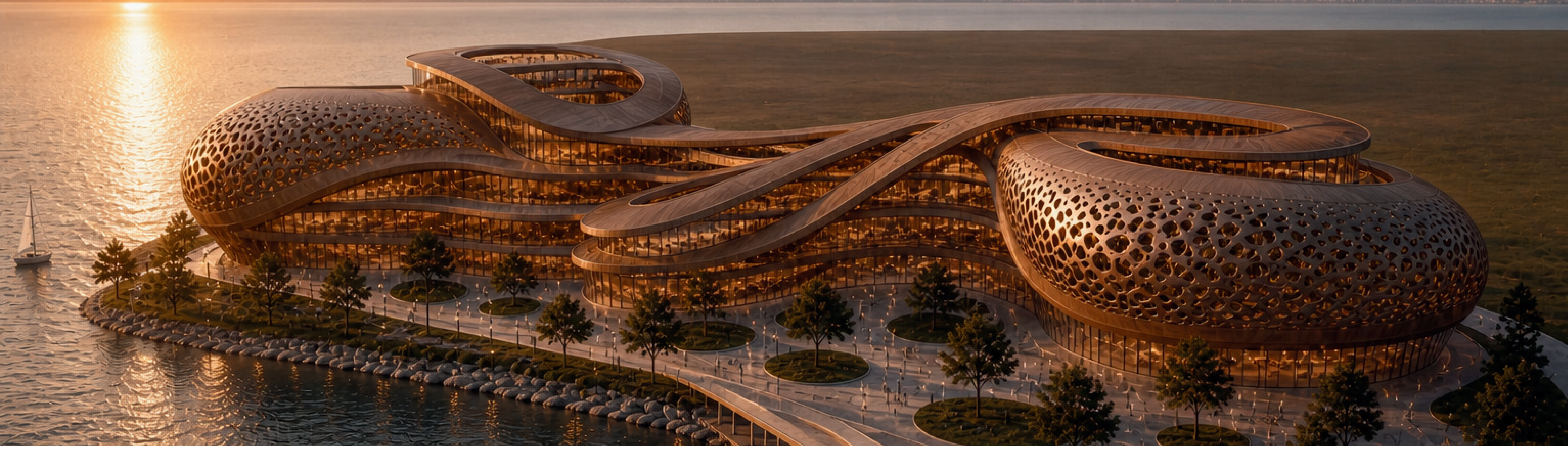


“The project reinterprets the disrupted physiological and psychological rhythm experienced after disasters through spatial flow, transformation, and environmental data, conceiving the structure as a dynamic organism that operates like a pulse.”



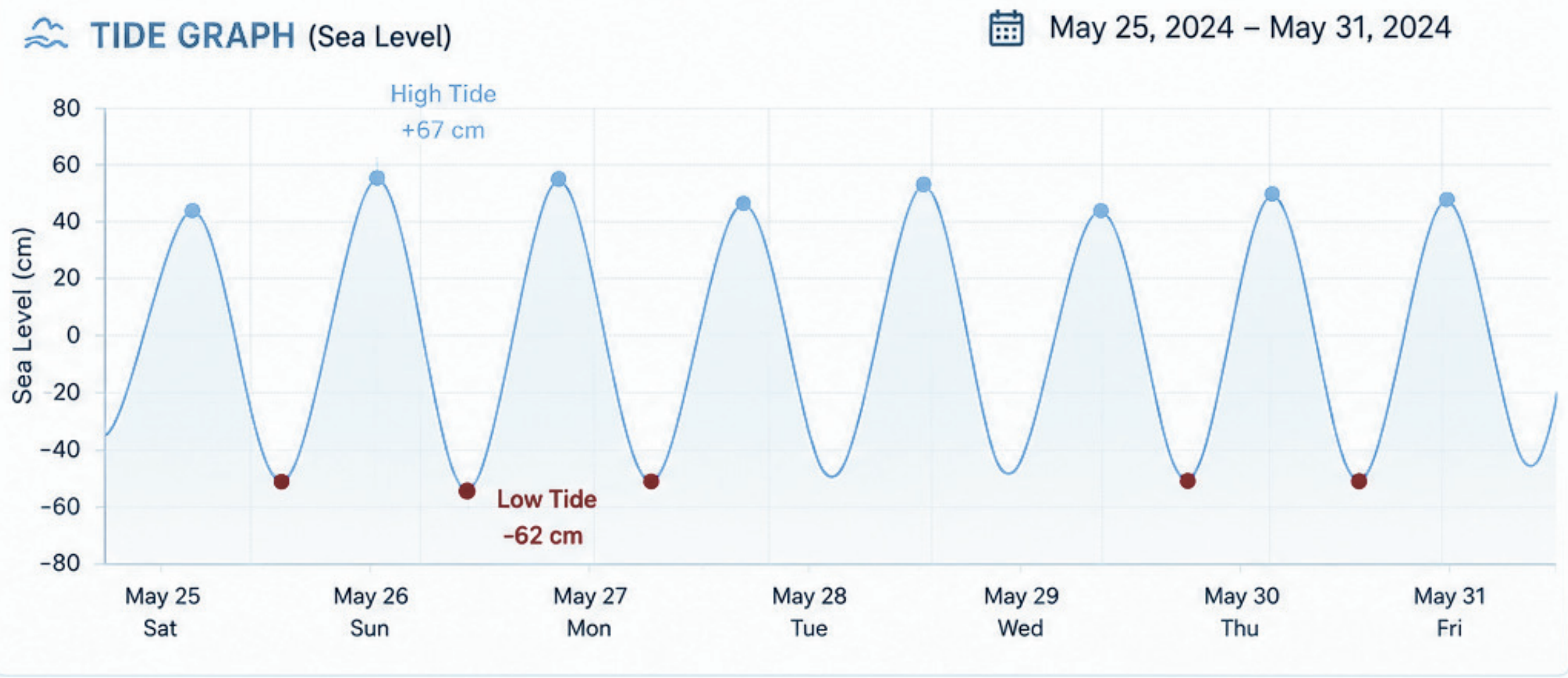
SITE PLAN 1/500



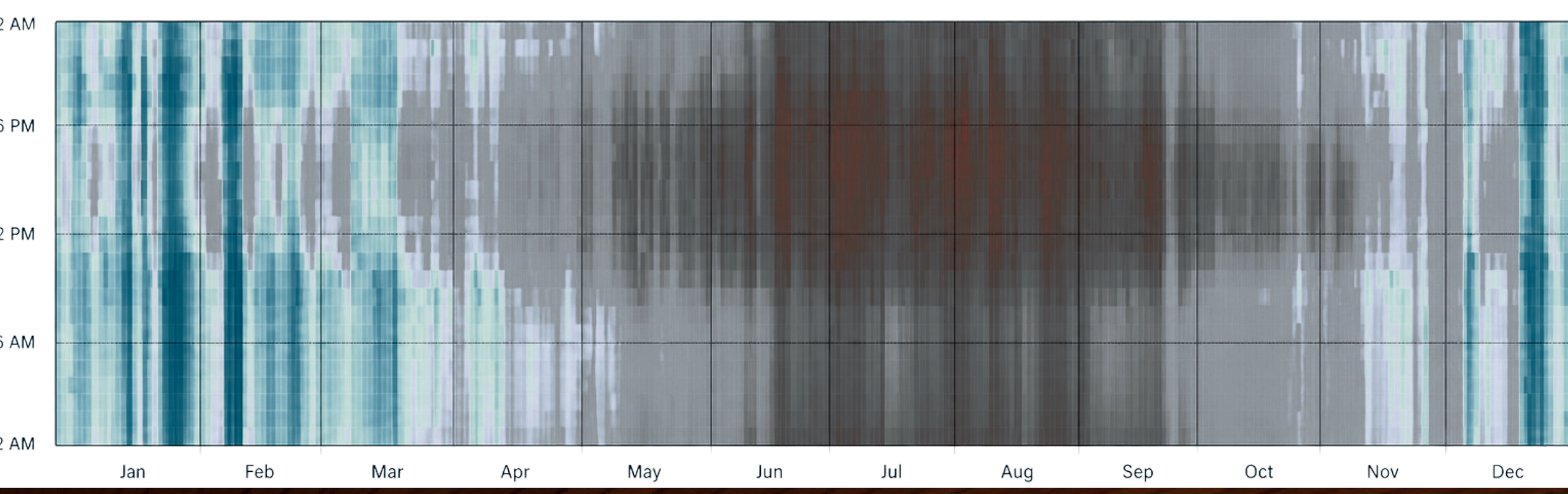


IZMIR ÇEŞME TIDE ANALYSIS

Tide (Sea Level) Forecast for Çeşme, İzmir

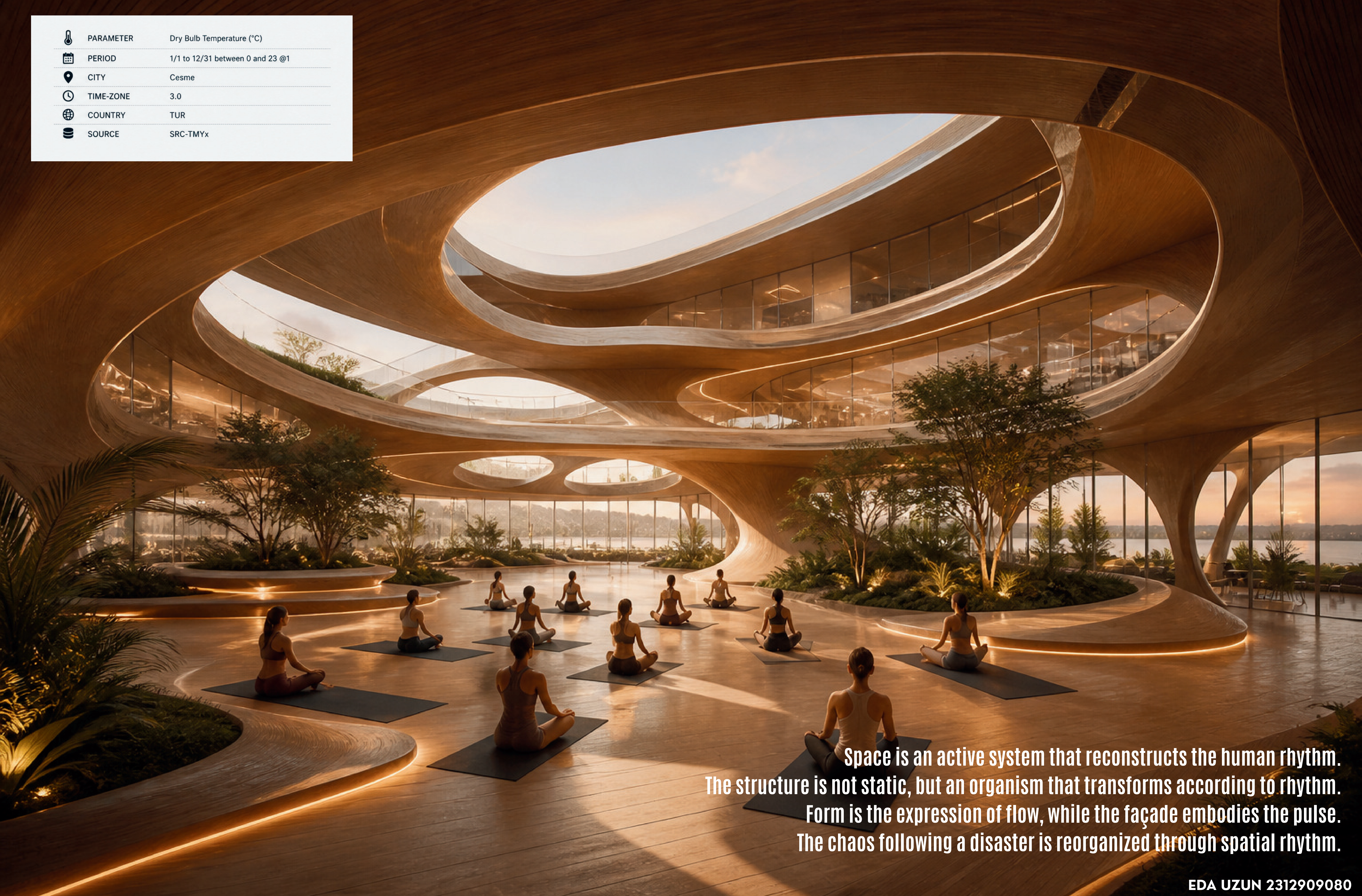


DRY BULB TEMPERATURE HOURLY VARIATION THROUGH THE YEAR



FLOOR PLAN 1/100

PARAMETER	Dry Bulb Temperature (°C)
PERIOD	1/1 to 12/31 between 0 and 23 @1
CITY	Cesme
TIME-ZONE	3.0
COUNTRY	TUR
SOURCE	SRC-TMYx



Space is an active system that reconstructs the human rhythm. The structure is not static, but an organism that transforms according to rhythm. Form is the expression of flow, while the façade embodies the pulse. The chaos following a disaster is reorganized through spatial rhythm.

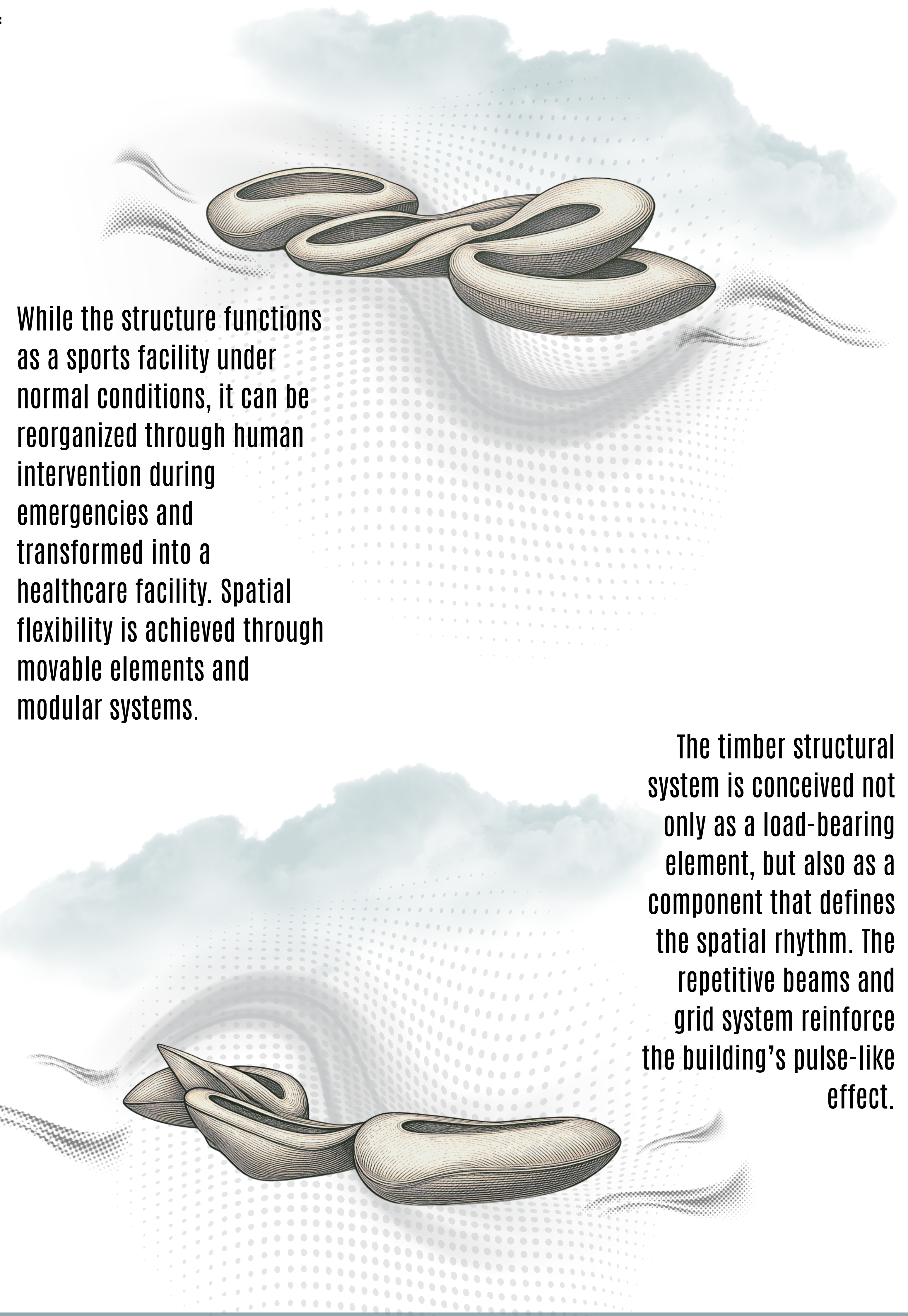


The disrupted human rhythm after a disaster is reconstructed through spatial organization. The spatial sequence extending from the entrance to the main volume and resting areas generates a rhythm that accelerates, stabilizes, and gradually slows down.

The structure captures airflow through openings positioned according to the prevailing wind direction, channels it through the interior spaces, and releases it through roof apertures. This system enables the building to breathe like a natural organism.

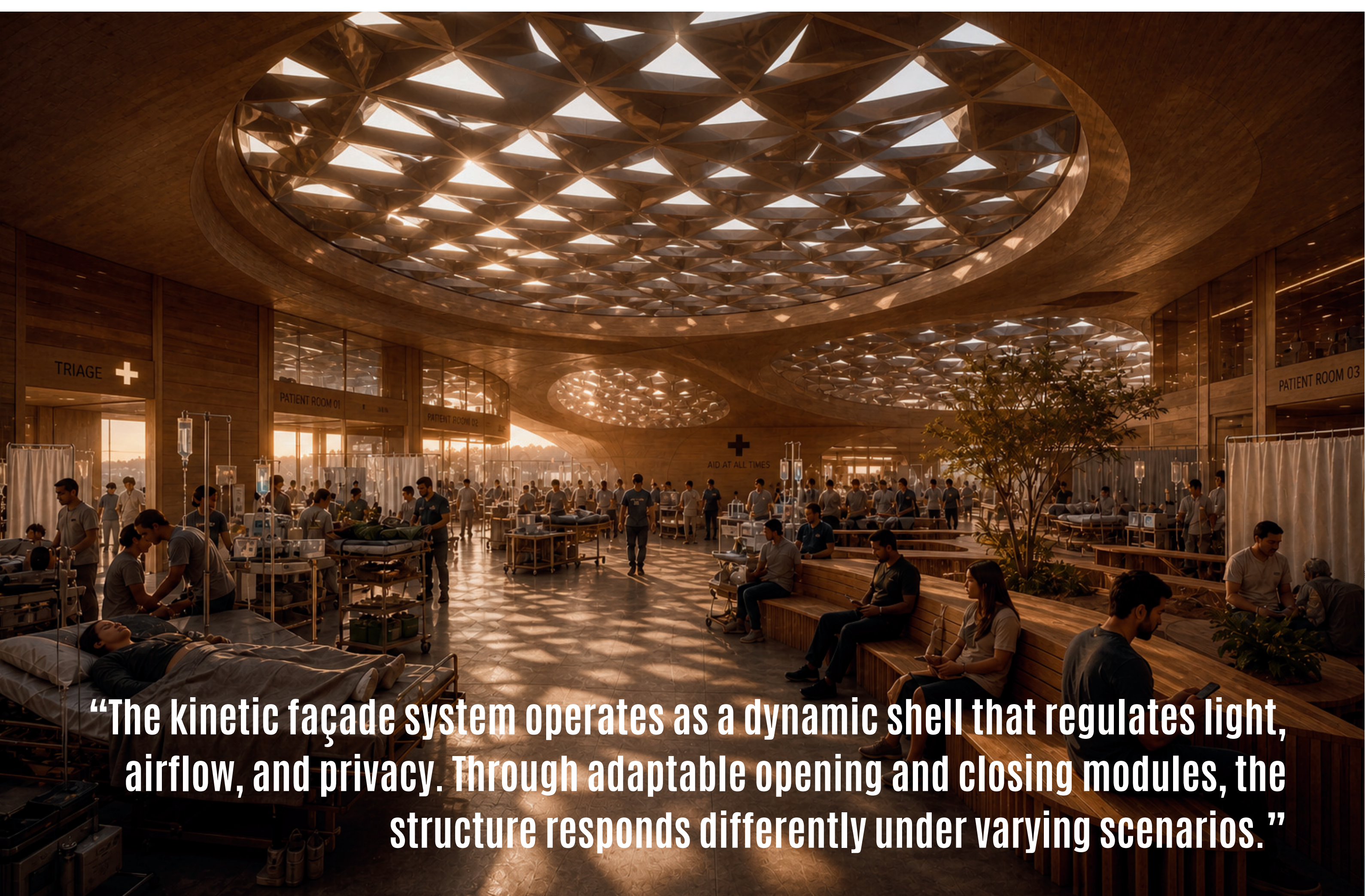


Adaptive Pulse Shell



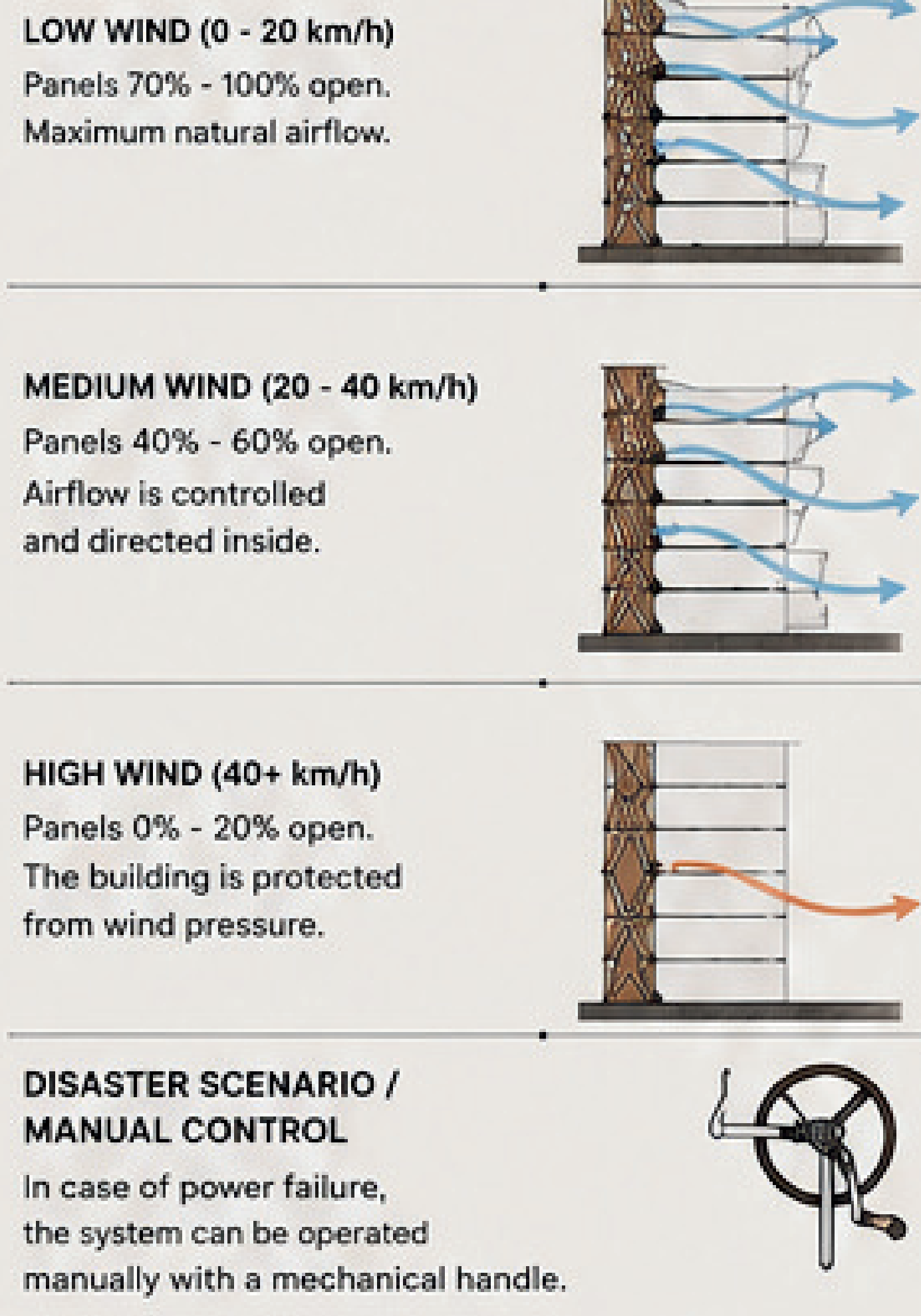
While the structure functions as a sports facility under normal conditions, it can be reorganized through human intervention during emergencies and transformed into a healthcare facility. Spatial flexibility is achieved through movable elements and modular systems.

The timber structural system is conceived not only as a load-bearing element, but also as a component that defines the spatial rhythm. The repetitive beams and grid system reinforce the building's pulse-like effect.



"The kinetic façade system operates as a dynamic shell that regulates light, airflow, and privacy. Through adaptable opening and closing modules, the structure responds differently under varying scenarios."

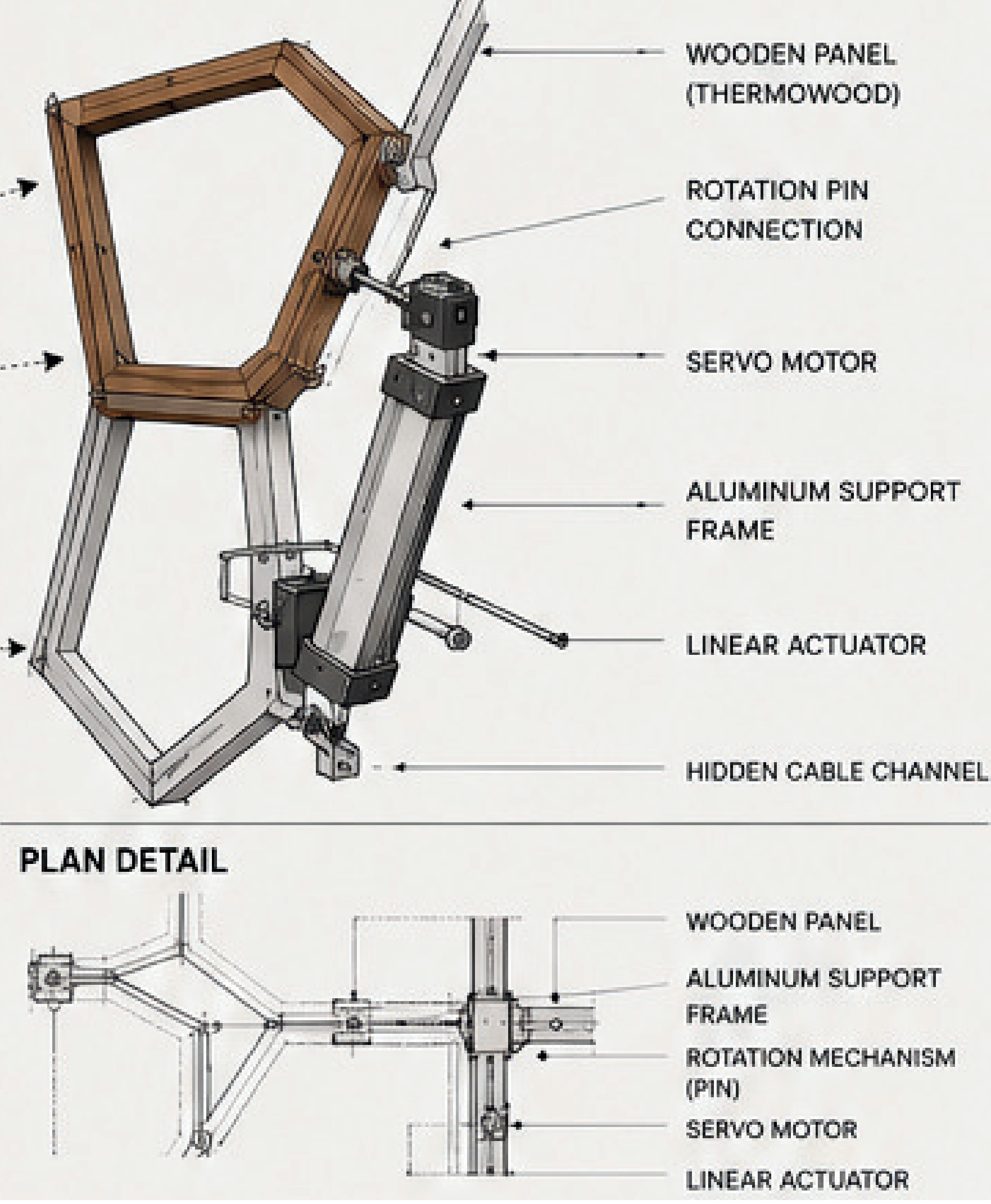
FACADE MOVEMENT ACCORDING TO WIND DATA



KINETIC VORONOI FACADE SYSTEM

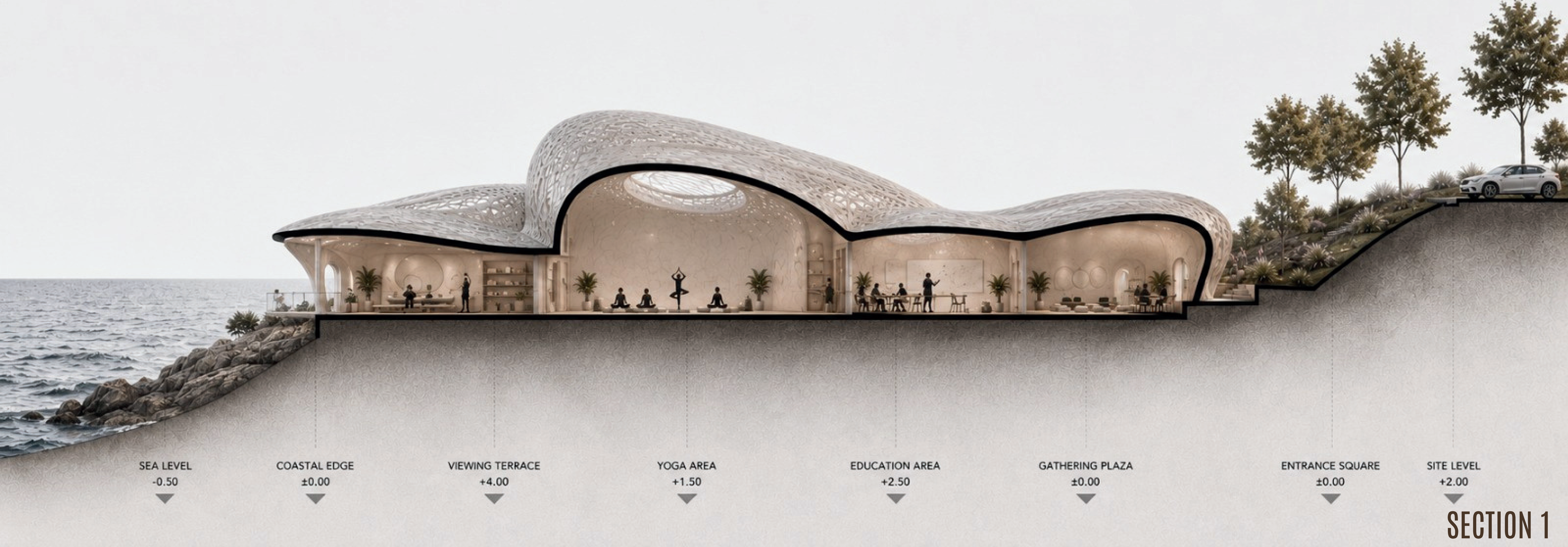
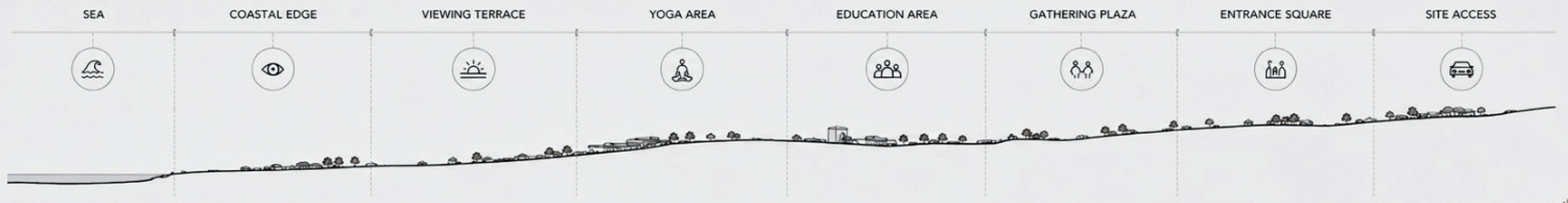


KINETIC PANEL MECHANISM DETAIL

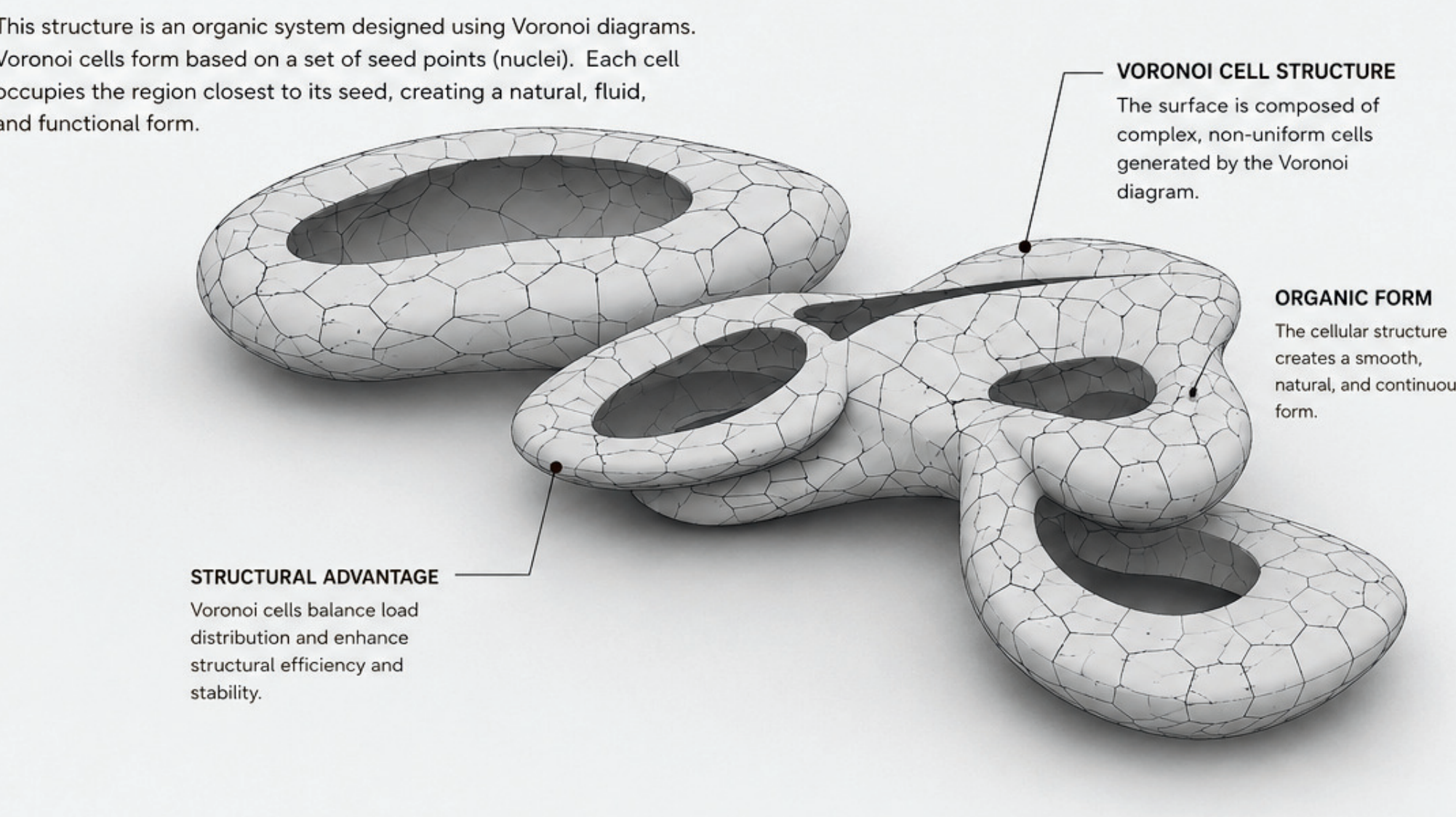


SYSTEM COMPONENTS

- 1 ANEMOMETER**
Measures wind speed.
- 2 WIND DIRECTION SENSOR**
Detects wind direction.
- 3 CONTROL UNIT**
Processes sensor data and sends commands to the actuators.
- 4 LINEAR ACTUATOR**
Provides opening and closing movement.
- 5 SERVO MOTOR**
Controls the rotation of the panels.
- 6 POWER SUPPLY**
Provides energy for the system. (Solar panel supported)

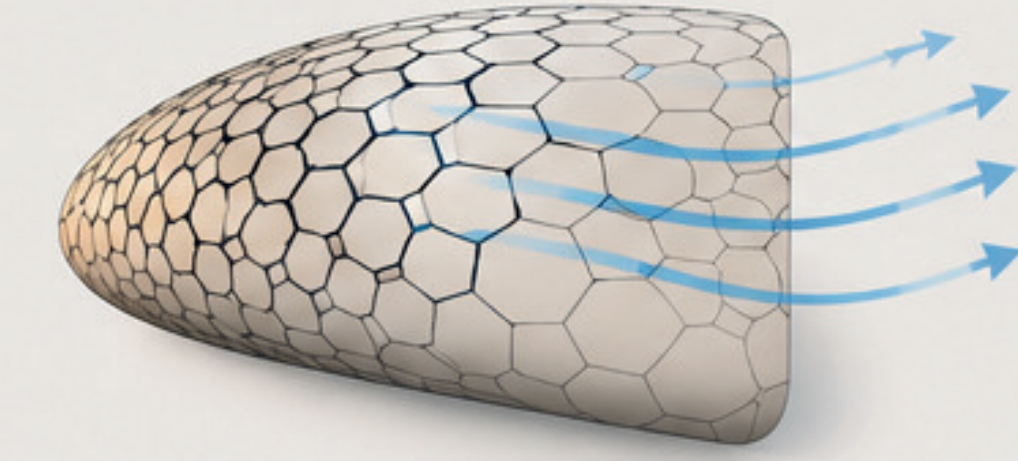


AN ORGANIC SYSTEM MODELLED WITH VORONOI DIAGRAM



VORONOI FACADE SYSTEM

The Voronoi diagram used on the facade is generated by analyzing wind direction and speed to create a cellular system. This system places openings in strategic locations to capture and channel the wind into the building.

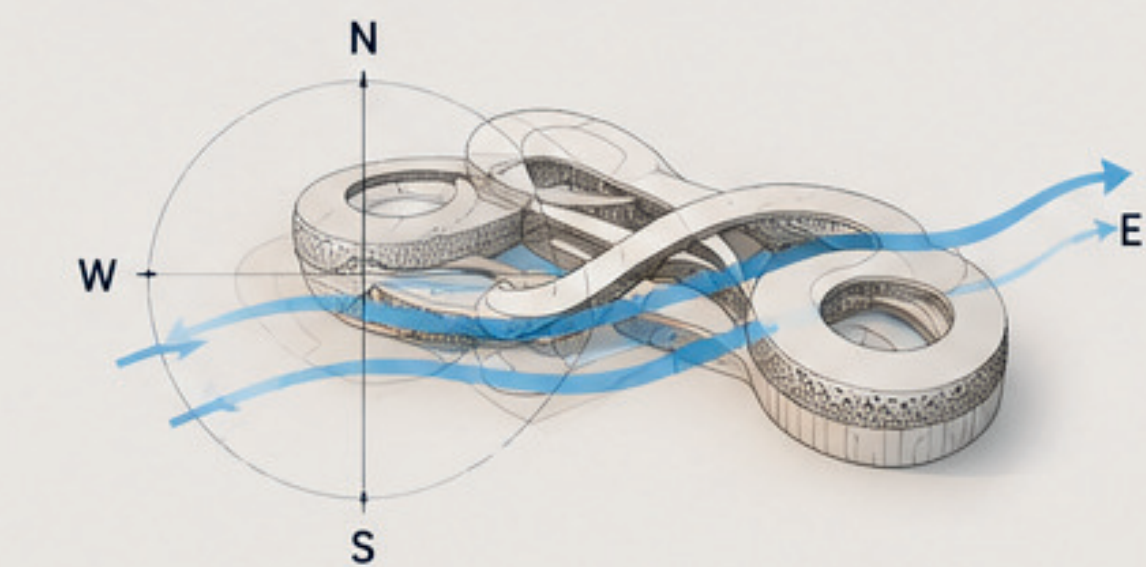


NATURAL, INTELLIGENT AND DYNAMIC

This system transforms the power of nature into an integral part of the architecture. The facade is not just a skin; it is a living interface that breathes with the wind.

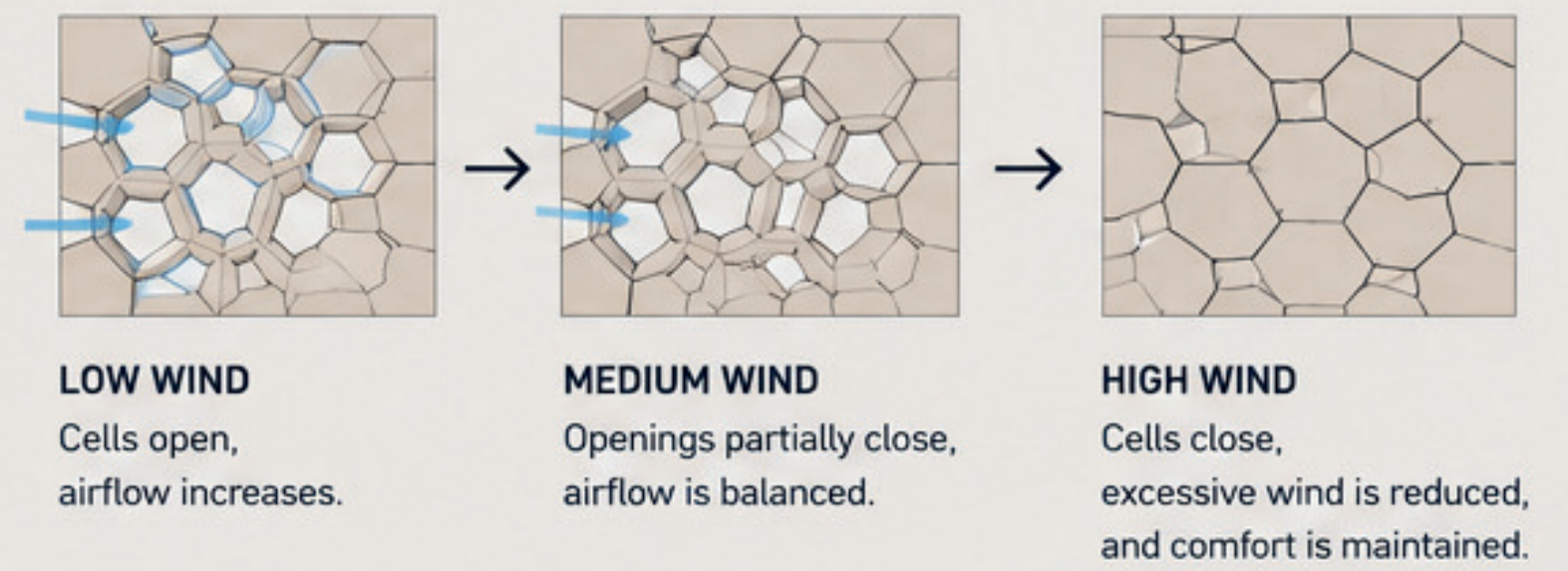
STRATEGIC OPENINGS BASED ON WIND DIRECTION

The Voronoi and size of the openings are determined according to the prevailing wind direction. This way, wind does not collide with the mass; instead, it flows into and through the building.



WIND SPEED-BASED KINETIC CONTROL

Voronoi cells act as kinetic elements that open and close according to wind speed. This behavior optimizes: natural ventilation, thermal comfort, energy efficiency and climate control.



- ORIENTED BY WIND
- CAPTURES WIND
- ENHANCES AIRFLOW
- IMPROVES COMFORT
- INCREASES ENERGY EFFICIENCY

FACADE MOVEMENT SEQUENCE



SYSTEM SECTION DETAIL

