

GreenWave FloatPark

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**IKM® AI-driven platform for smart parking
management.**

ALDO *Cichero*







MAIN FEATURES

Length: 95 m

Width: 33 m

Height above waterline: 14 m

Draft: 3 m

3 garden zones: 830 sqm

3 zones of photovoltaic panels: 1,100 sqm

Construction material: STEEL

Standard: RINA

Parking spaces: 400 cars - 600; 100

jet skis

Integrated with Artificial Intelligence systems: IKM®

Neural network architecture for parking area
management



GreenWave FloatPark

by
Aldo Cichero

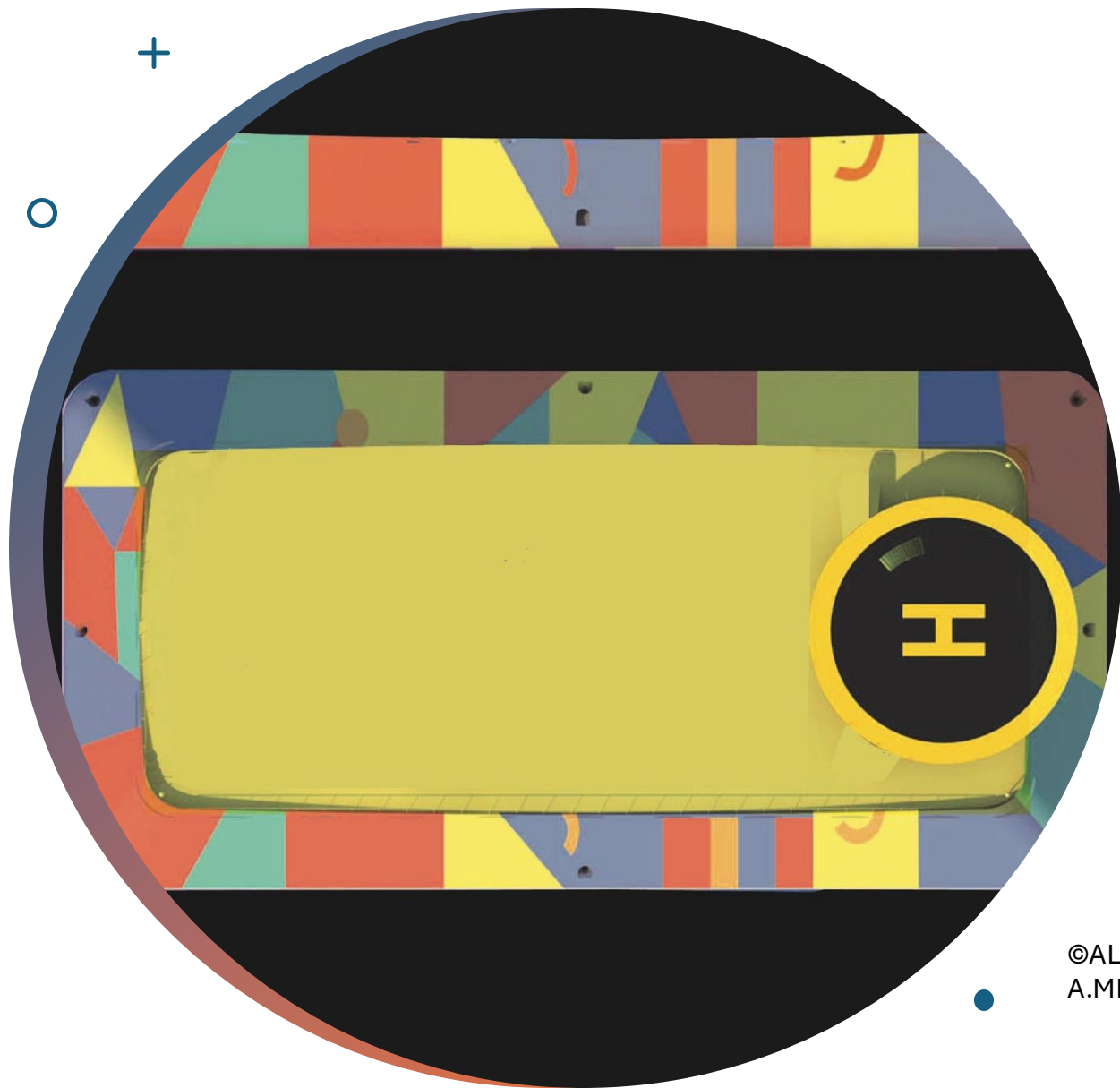
The module designed by Aldo Cichero functions as a mobile parking lot, which can be docked like any other ship. Compared to traditional land parking, it offers the dual advantage of not occupying valuable urban space and being transferable, by tugboat, wherever it is needed – for example, during high-attendance events in cities. Besides its primary function as a parking facility, the panoramic upper deck makes the module suitable for hosting medium-sized events, such as exhibitions and concerts, or public venues like rooftop lounges or skybars. The module features a ballast system using seawater, automatically adjusted with the entry and exit of vehicles and people to maintain a consistent draft. It is self-sufficient in terms of energy and water and contributes to oxygen production and CO2 absorption.



AI-driven platform for smart parking management. The solution is based on IKM® Platforms and Neural

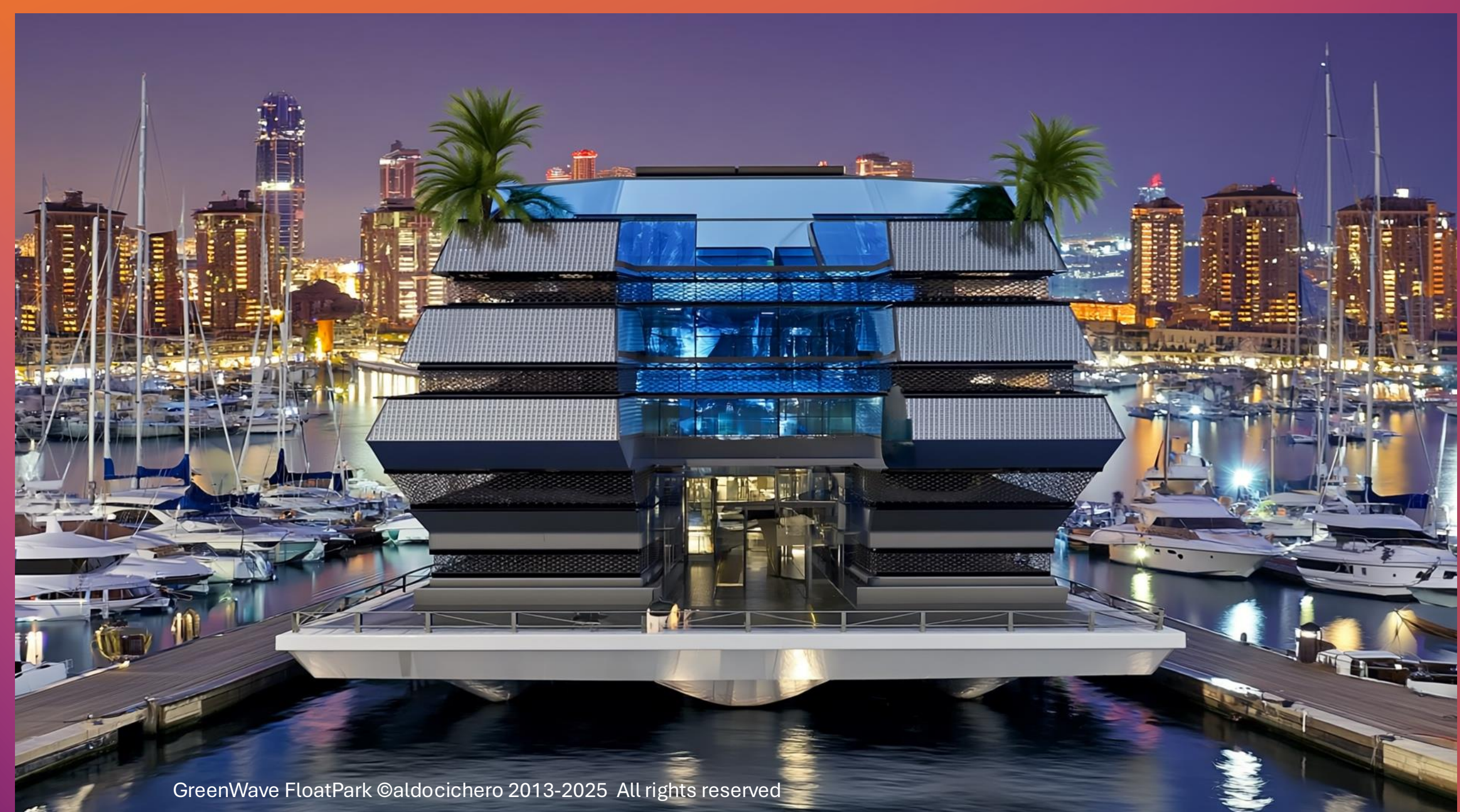
Networks, designed to analyze in real time the video streams from cameras installed in parking areas. In addition to continuous monitoring, the system can detect anomalies and critical events, enabling predictive management by anticipating congestion or potential operational issues.

Thanks to a modular and flexible architecture, IKM® platforms support phased implementation: you start with core features and then expand the system according to the customer's specific needs. This dynamic scalability makes it possible to optimize resource use, reduce operating costs, and improve the overall efficiency of parking management.

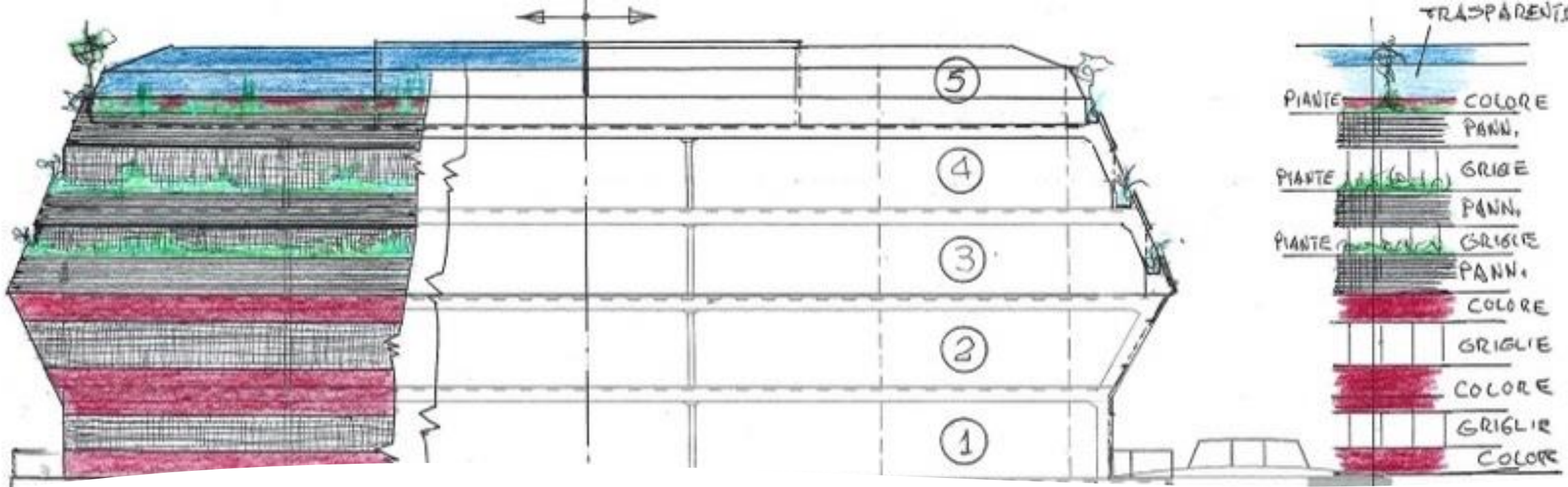


Aldo Cichero's floating parking design introduces an innovative approach to urban parking management, with a particular focus on environmental sustainability.

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GreenWave FloatPark

Boarding and Disembarking:

Doors and Walkways: Equipped with suitable doors and walkways for vehicle and passenger boarding and disembarking.

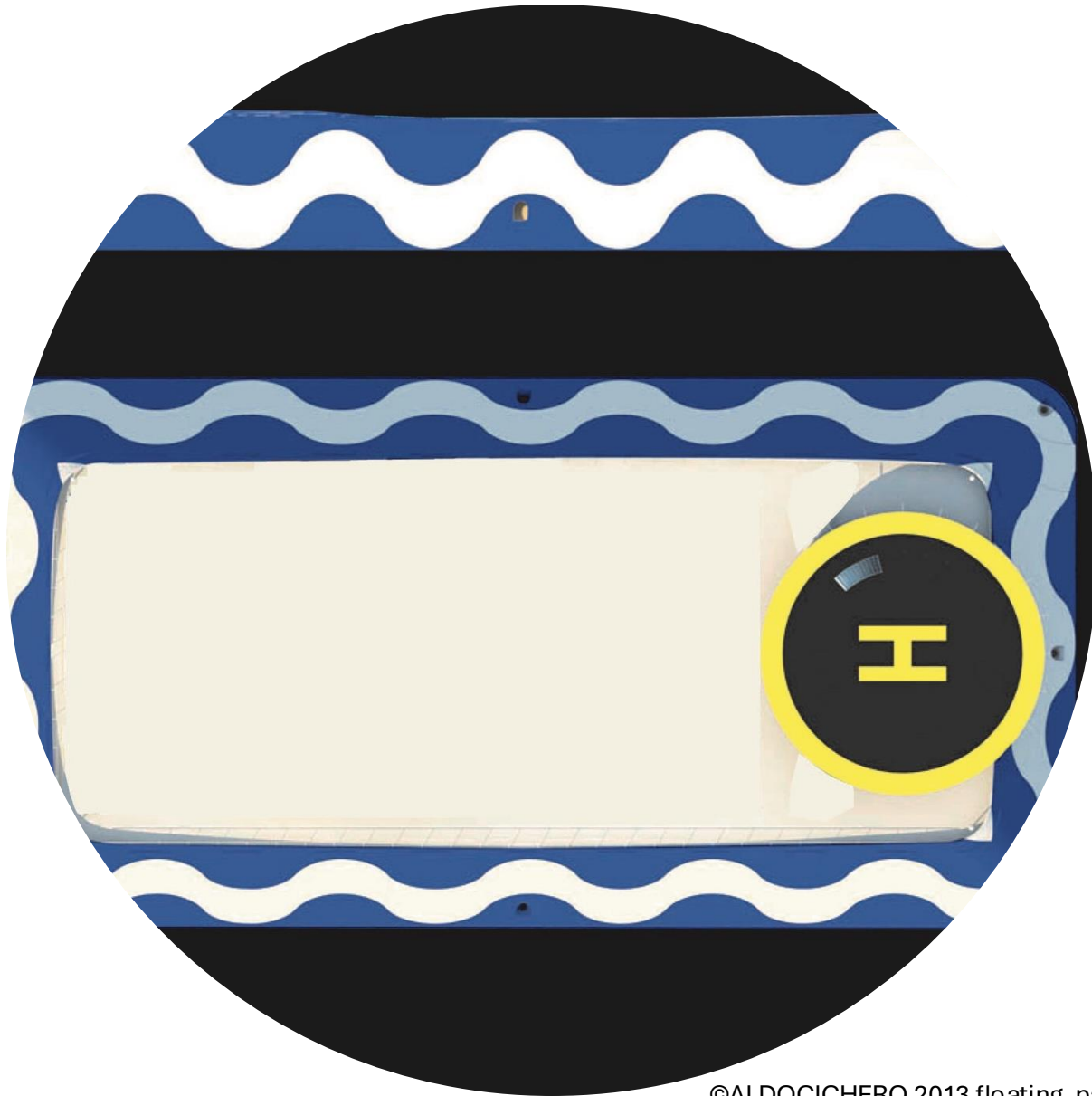
Waste and Pollution Management:

Waste Treatment System: Designed according to current regulations to contain and dispose of liquids, black water, grey water, oils, and other waste in dedicated tanks, which can be emptied via specialized barges.

Construction Time: 8 months

ANALYSIS OF INNOVATIVE ASPECTS

- **Saving Urban Space and Reducing Environmental Impact**
The main innovation of this project lies in its ability to free up valuable urban space by shifting parking needs from land to water. This solution not only optimizes land use but also helps reduce the environmental impact associated with the construction and management of traditional parking facilities. Unlike traditional parking, which requires significant soil waterproofing and often leads to the destruction of green spaces, a floating parking lot reduces direct impact on the ground. This allows for the preservation of natural ecosystems and the maintenance of the balance of surrounding green areas.
- **Reduction in Land Consumption**
This floating parking structure utilizes aquatic space without taking away valuable land that could be used for agricultural purposes or the conservation of natural habitats. In doing so, it helps reduce land concreting, a phenomenon that negatively impacts biodiversity and local microclimates.
- **Energy Self-Sufficiency and CO2 Reduction with the Use of Renewable Energy**
Aldo Cichero's floating parking lot is equipped with innovative technologies for renewable energy production, featuring photovoltaic panels installed on the perimeter and the upper deck. This capacity to generate clean energy on-site eliminates dependence on traditional power grids and helps reduce greenhouse gas emissions associated with non-renewable energy sources. The surplus energy generated by the system can be fed into the grid.
- **Potential for Energy Production**
In good solar irradiation conditions, such as on the sea, this floating parking facility can achieve energy production exceeding 200 kWh.
- **Energy Self-Sufficiency**
This amount of energy could make the floating parking facility energy self-sufficient, covering its needs for lighting, ventilation, management systems, and electric vehicle charging.
- **Contribution to Renewable Energy**
Generating energy from renewable sources significantly contributes to reducing CO2 emissions by replacing fossil fuels. This makes the project a virtuous example of sustainability and innovation.
- **Potential for Selling Excess Energy**
If the system produces more energy than is required for parking operations, the excess could be fed into the grid, generating additional income.



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- **CO2 Reduction by Using Steel Instead of Reinforced Concrete**

The production of reinforced concrete has a significantly higher environmental impact in terms of CO2 emissions compared to steel. Cement is responsible for about 8% of global CO2 emissions. Its production requires an energy-intensive process and releases large amounts of carbon dioxide as a byproduct.

Steel, though energy-intensive as well, has a lower carbon footprint than concrete. Additionally, steel is highly recyclable, which further reduces its long-term environmental impact.

- **Rainwater Management**

Another significant advantage of the floating parking lot is its ability to manage rainwater more efficiently. Land-based parking lots, often impermeable, can contribute to surface water runoff, increasing the risk of urban flooding. In contrast, this floating parking lot is designed to collect and reuse rainwater, promoting sustainable water resource management and contributing to the vehicle's self-sufficiency.

Flexibility and Space Reuse

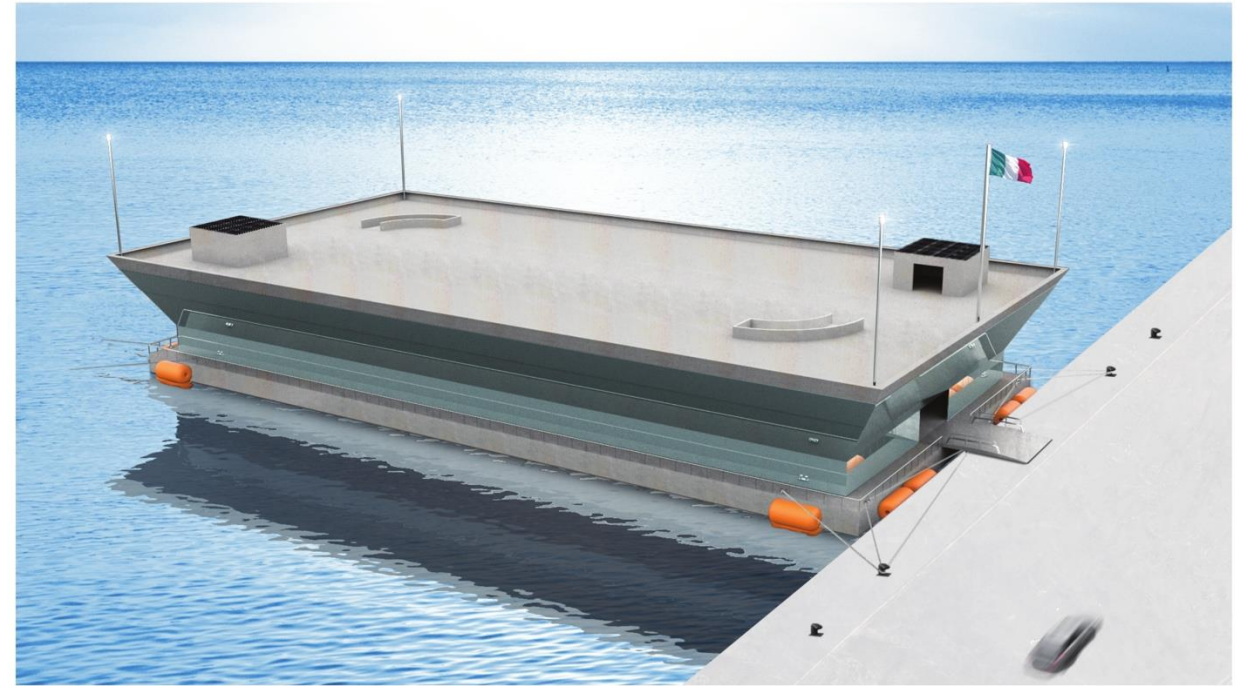
relocated by tugboat, for example, during high-attendance events. It can also be dismantled if it is no longer needed. This makes it extremely flexible and allows for efficient reuse of space, adapting to the temporary needs of urban areas without leaving unused permanent structures behind.

Integration with Sustainable Water Transport

Finally, this floating parking lot can be integrated with sustainable water transport solutions, such as electric or solar-powered ferries. This type of integration promotes a more sustainable urban mobility system and reduces terrestrial traffic congestion.

Inclusivity

This floating parking facility also includes an automatic parking area suitable for people with motor disabilities.



Destinations and Functionalities

Aldo Cichero's floating parking lot is a modular and temporary structure that can be easily In addition to its primary function as a parking lot, the module is versatile thanks to the panoramic upper deck, which can host medium-sized events such as exhibitions, concerts, or serve as a rooftop lounge or skybar.



Reduction in Construction Time

The floating parking lot can be completed in 8 months and is built in a shipyard. The construction of a traditional parking structure requires years of work and involves a slow and complex approval process.

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BENEFITS OF TERRACED GARDEN PARKING

Improved Air Quality

The plants on the bridge facades would absorb CO₂ and release oxygen, helping to improve air quality in a densely populated urban area. Additionally, plant leaves help capture dust particles and reduce air pollution.

Reduction of Urban Heat Island Effect

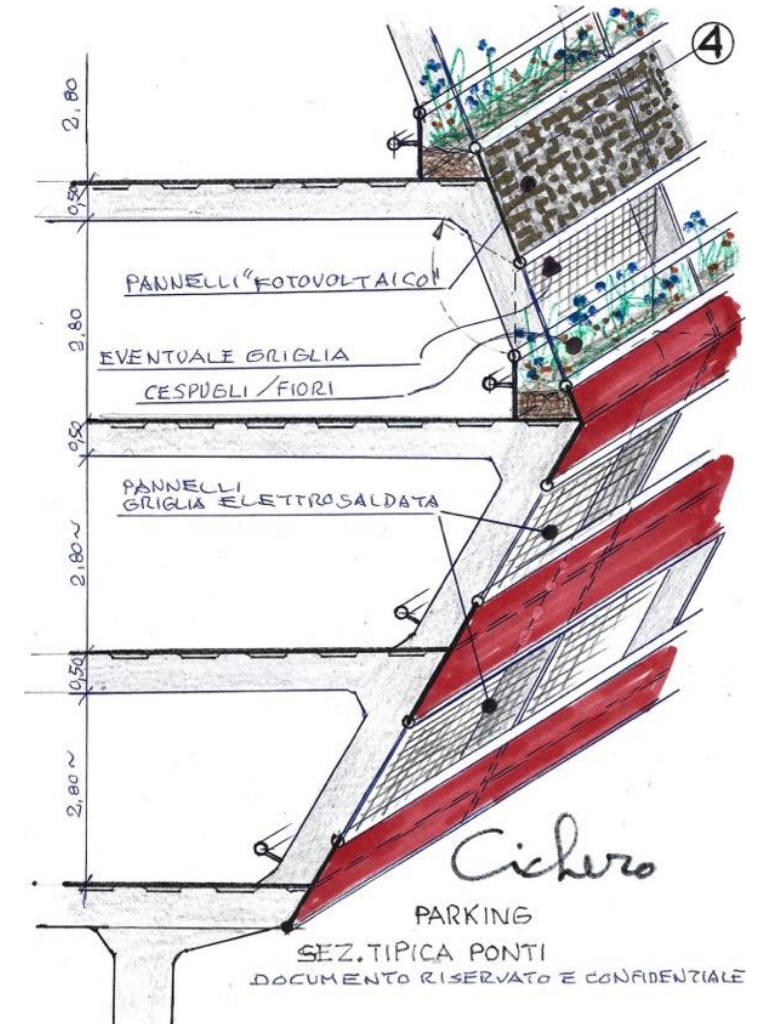
The plants provide shade and increase humidity in the air, helping to cool the surrounding area and mitigate the "urban heat island" effect typical of cities.

Urban Biodiversity

The GreenWave FloatPark hosts a wide range of plant species, creating a habitat for birds and insects, which helps promote biodiversity in an urban setting.

Energy Efficiency

The vegetation acts as a natural insulator, maintaining a climate less susceptible to heat and cold, thus enhancing the energy efficiency of the parking facility.





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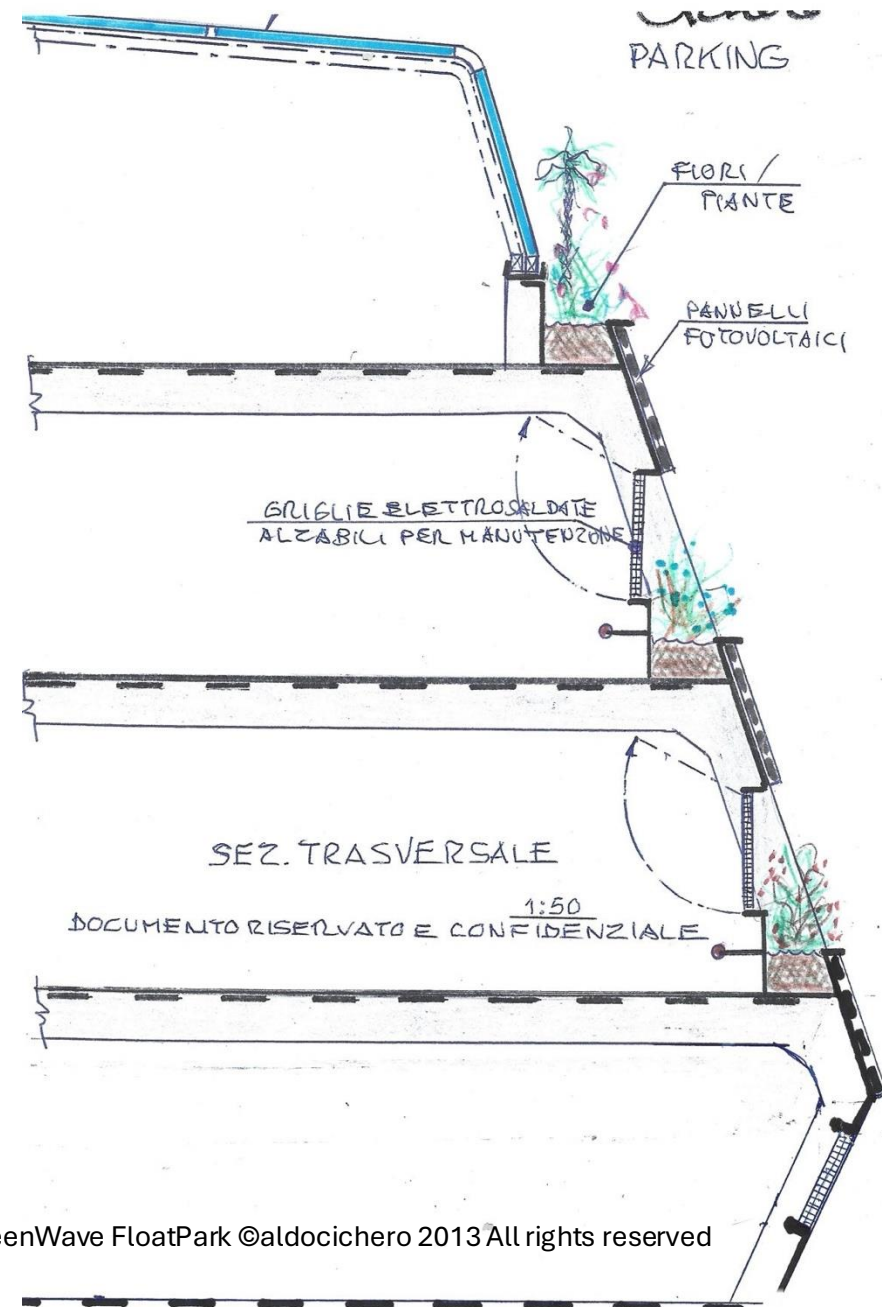
STRUCTURE

Deck Structure:

- **Exterior Deck:** Space for dining and events or, alternatively, a helicopter landing pad.
- **Four Lower Decks:** Car parking with a capacity of about 100 cars per deck, totaling 400 cars, expandable to 600 with an automated parking system. Includes charging stations for electric cars and space for jet skis.
- Equipped with 3 restrooms, an elevator, a material hoist, and double service and emergency staircases. Four emergency side exits with evacuation rafts are available on the second lower deck.
- **Hanging and Wall Gardens:** Three zones with plants, shrubs, and flowers with high CO2 absorption capacity.

Technology and Safety:

- **Ballast System:** Uses seawater, automatically regulated to maintain consistent draft with the entry and exit of vehicles and people.
- **Photovoltaic Panels:** Equipped with photovoltaic panels on the upper deck and, alternatively, on windows, with a storage battery.
- **Rainwater Collection System:** For restroom facilities and garden maintenance.
- **Fire Safety System:** Compliant with RINA regulations.
- **Winches:** Four hydraulic winches on the upper deck for module positioning maneuvers.
- **Surveillance and Security:** Video surveillance on each deck with control terminals in the surveillance cabin on the first lower deck and on land.

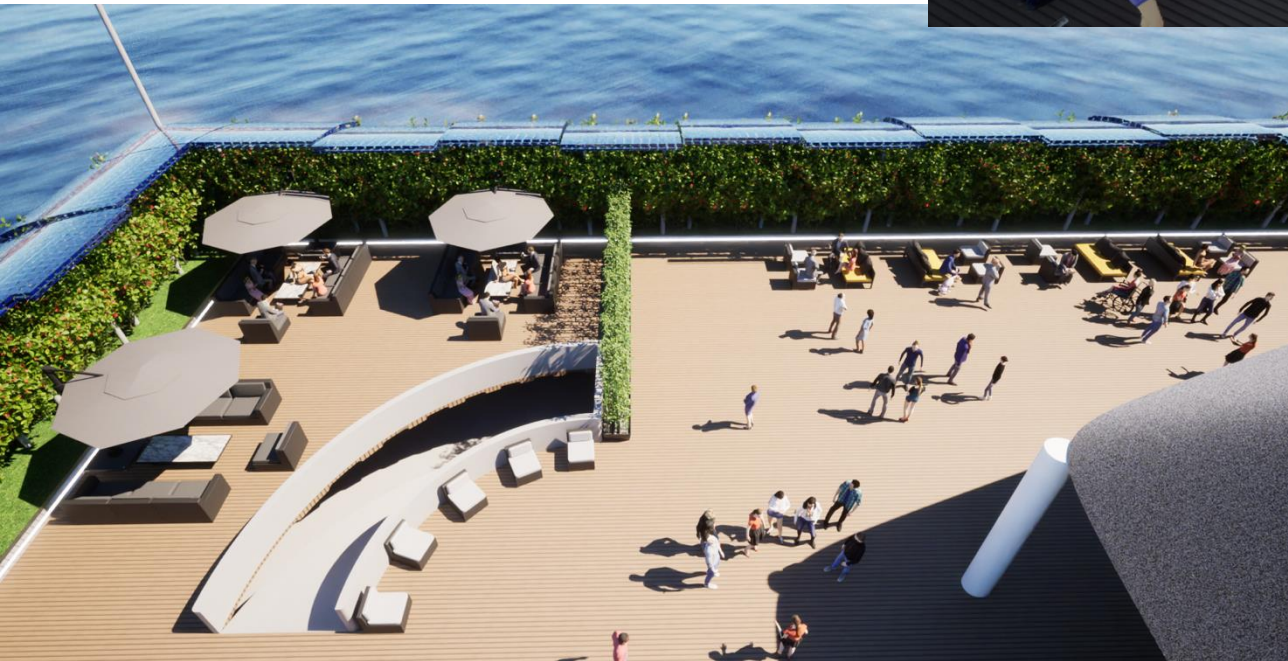


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