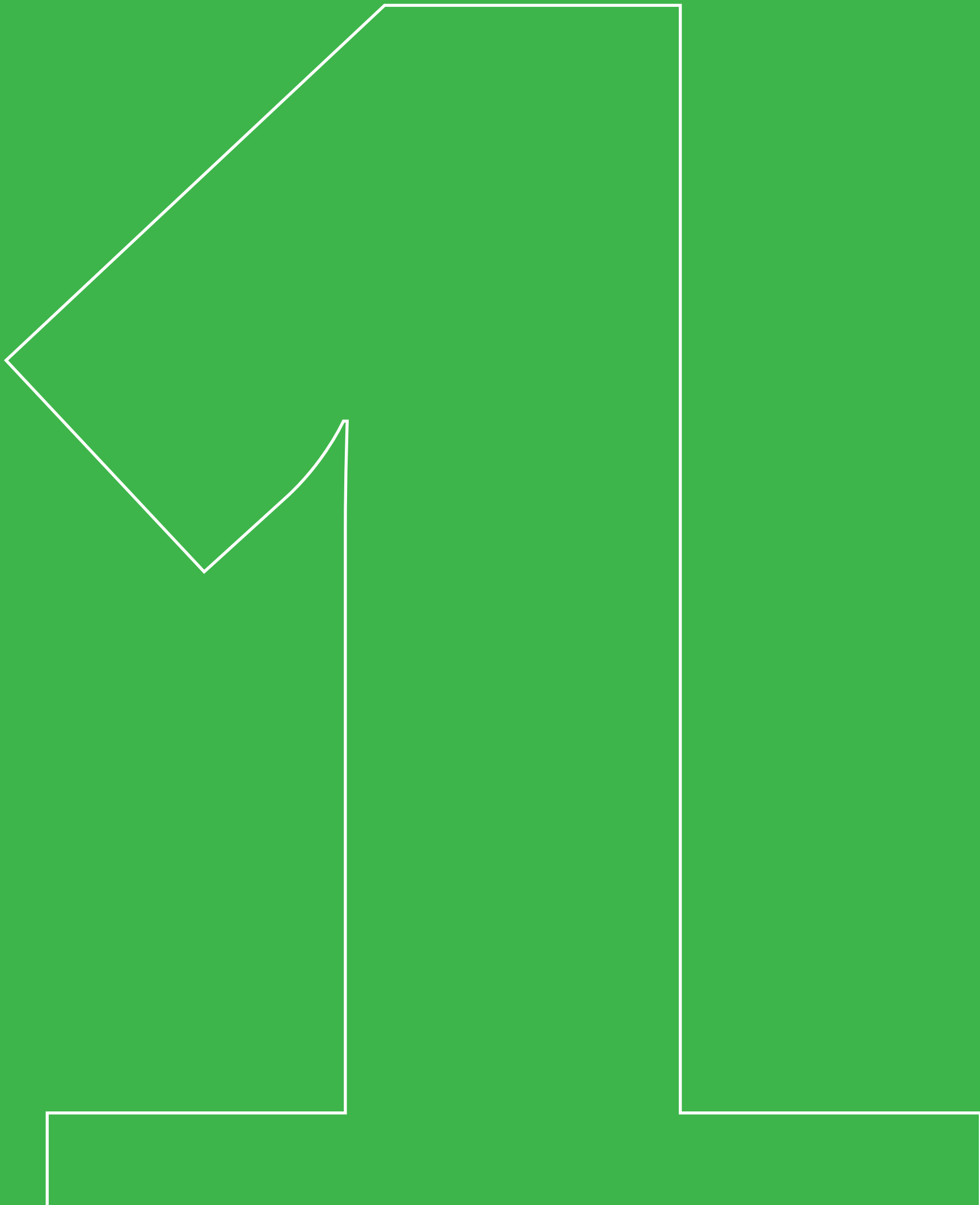


WE THE PLANET CAMPUS

DESIGN CONCEPT FOR A CORPORATE
BUILDING FOR THE ORGANISATION
WE THE PLANET, N.Y.

3DELUXE
NOV 26TH 2020

concept





**"IN NATURE WE DISCOVER BEAUTY, THE
AESTHETIC AND THE HEART OF THIS
PROJECT."**

LAURA MURANAKA - CO - FOUNDER OF WTP

CONCEPT

INTRODUCTION

3deluxe's architectural study commissioned by **New York-based organization #WeThePlanet (WTP)** attempts to investigate new and forward-looking opportunities for **people-friendly architecture in harmony with nature**. The #WeThePlanet Campus serves as a communicative platform to **protect all life on land and under the sea** while advancing the frontiers of design. The Campus offers facilities for convening international summits, workshops and educational programs which focus on transforming our **world for a better future**, and will be addressing topics such as human longevity and planetary flourishing, climate change, social justice and equal opportunities. The floating building complex is aimed at serving as an inspiring example for **future life, living and working environments**.

CONCEPT

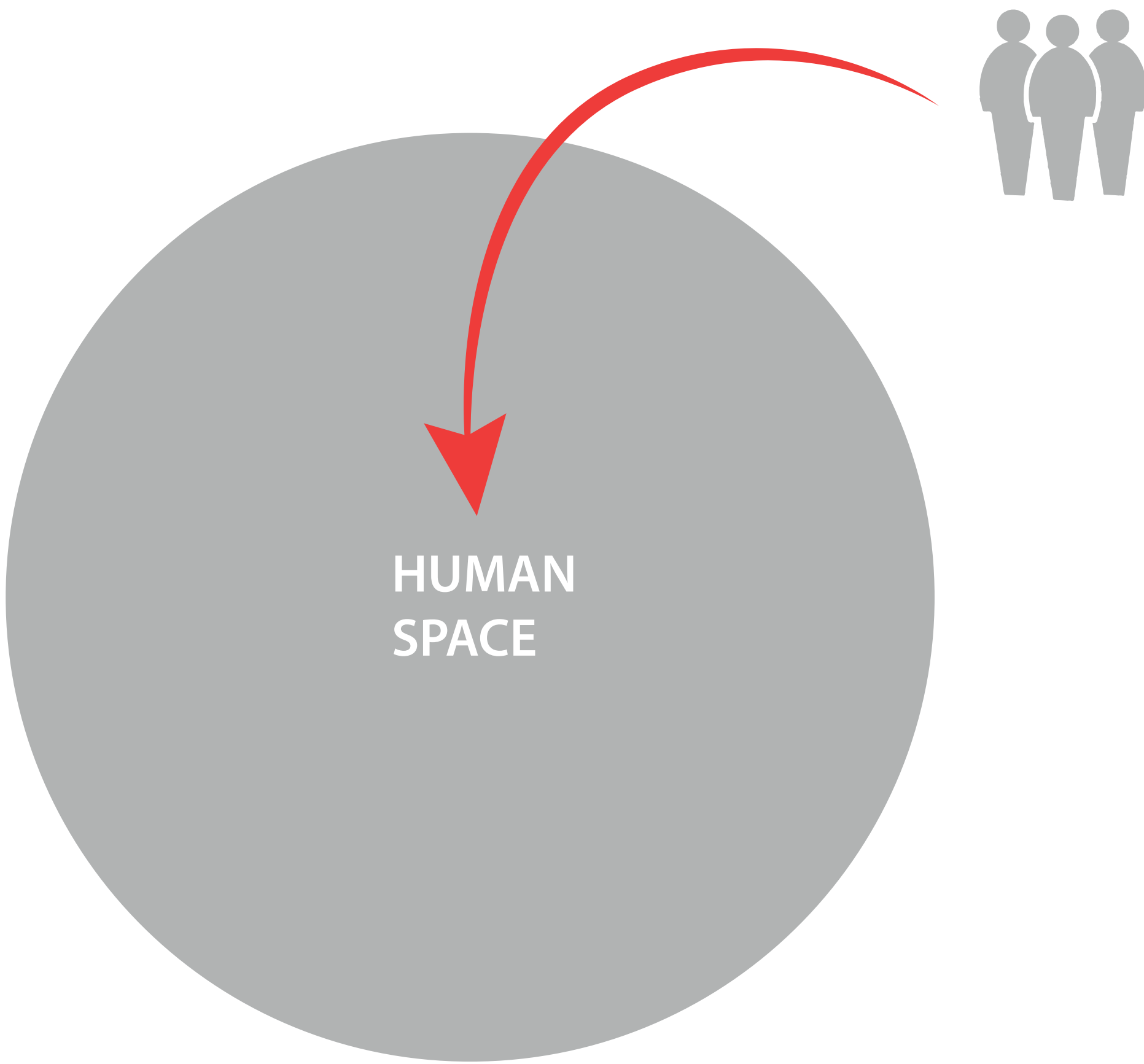
IDEA

50/50

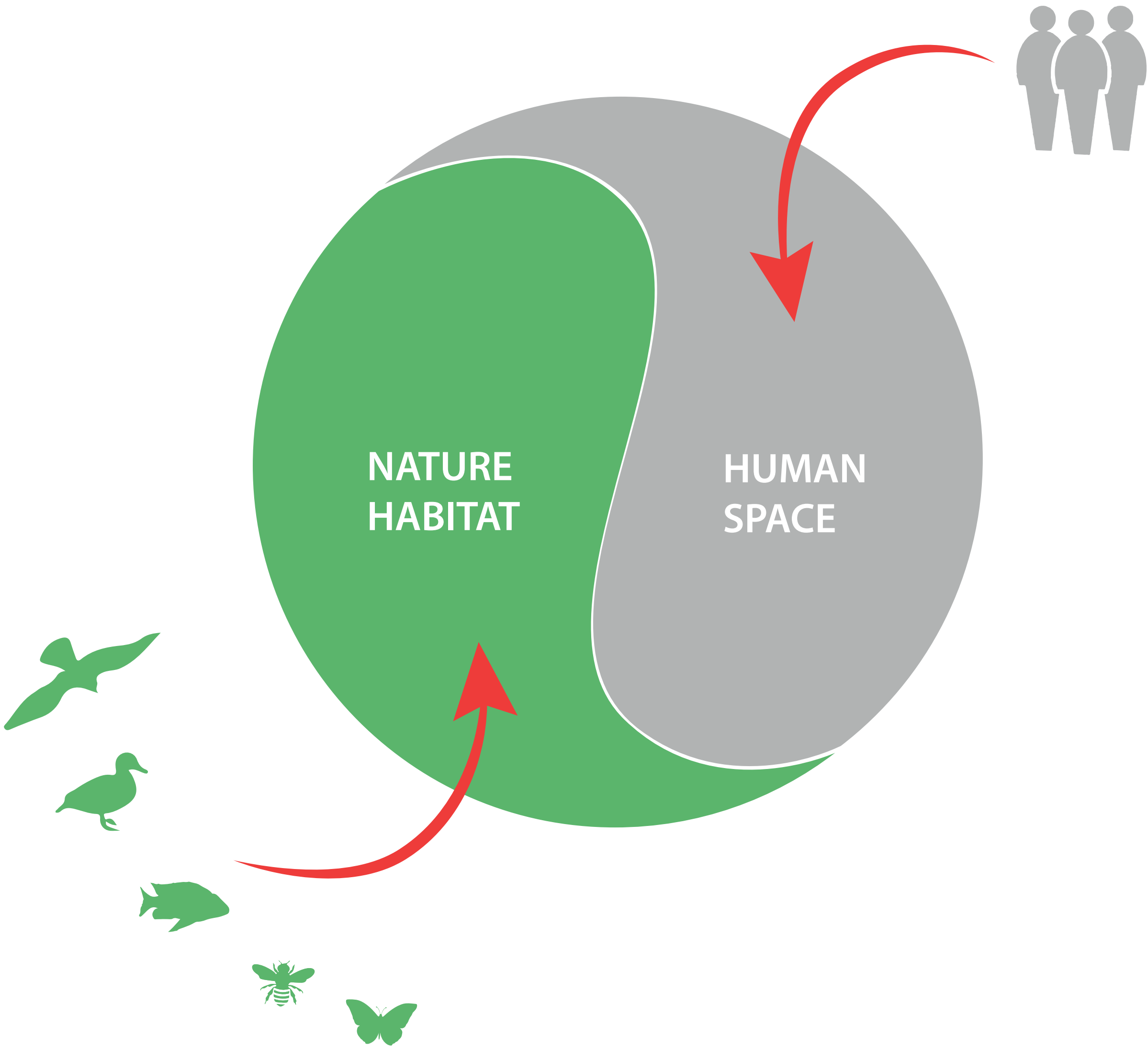
The basic idea behind this architectural concept is that in future all building projects should **give back just as much substance to nature as they take from it**. This would mean that as compensation for soil sealing, CO2 production and the use of energy and materials, new living environments would be **created for flora and fauna (Neobiota)**. Consistently used, this could completely change our future cityscapes. What would then come into being would be new, **innovative architectural structures**, integrating **50% nature-oriented biotopes**. The quality of life in the urban environment would be boosted enormously in every respect – a better air quality, more pleasant inner-city climates, cities would heat up less and our understanding of nature would be improved by experiencing it at first hand.

CONCEPT

NEW APPROACH TO ARCHITECTURE



CURRENT WAY OF ARCHITECTURAL
THINKING: 100% OF NEW BUILD SPACE
IS RESERVED FOR HUMAN USAGE



PROPOSED NEW ARCHITECTURAL
APPROACH:
NEWBUILT SPACE OFFERS HUMAN AND
NATURE THE SAME SPACE

CONCEPT

SUSTAINABILITY

The beauty in nature and technology

The most salient aspect of this building idea is that of the **floating marshland biotopes**, making up **50% of the overall surface areas**. However, it is not only here that living space will be created for flora and fauna, the meadow, the sand biotope, the thatched and green roofs also produce living environments for a **diversified animal and plant world**. The building materials can be divided up into **natural materials** such as wood, clay or reeds and **recycled materials** such as bioplastics. The **latest surface technologies** for **air cleansing** will also be used, along with algae bioreactors, wind farms, photovoltaics and marine power plants under the platform for **energy extraction**. The WTP Campus will be completely **self-sufficient**, gathering energy and drinking water by itself and recycling the waste that it produces. All the sustainability measures are integrated in a **fluid, organic design concept** that cooperates with the **forces of nature** (wind, sun, water), thus making for a **genuine, elegant naturalness**.

CONCEPT

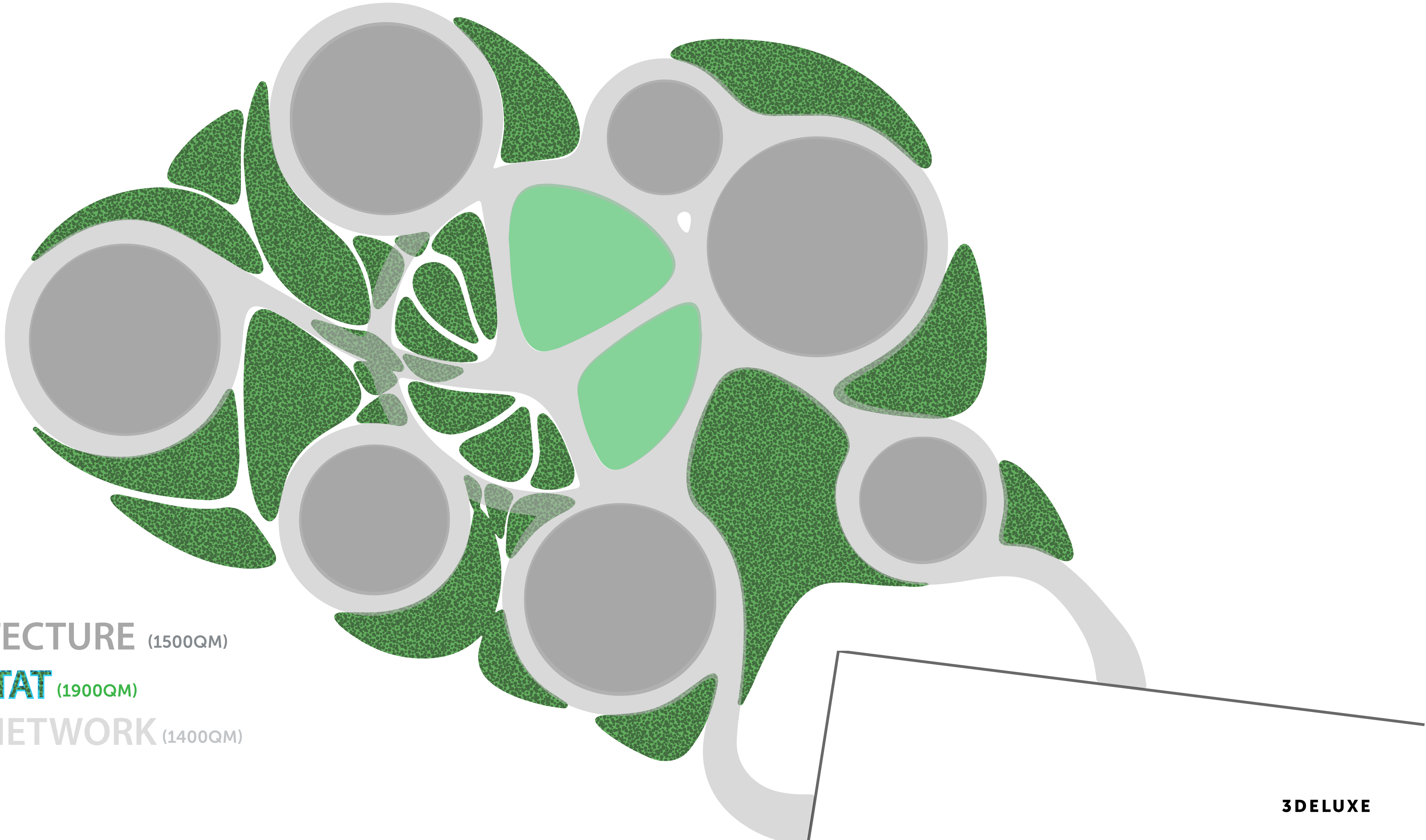
HUMAN - NATURE BALANCE
WE THE PLANET CAMPUS FOOTPRINT



45% HUMAN
45% NATURE
10% SHARED

CONCEPT

DESCRIPTION OF THE ARCHITECTURE COMPONENTS
WE THE PLANET CAMPUS FOOTPRINT



■ SOLID ARCHITECTURE (1500QM)

■ NATURE HABITAT (1900QM)

■ TRANSITION NETWORK (1400QM)

CONCEPT

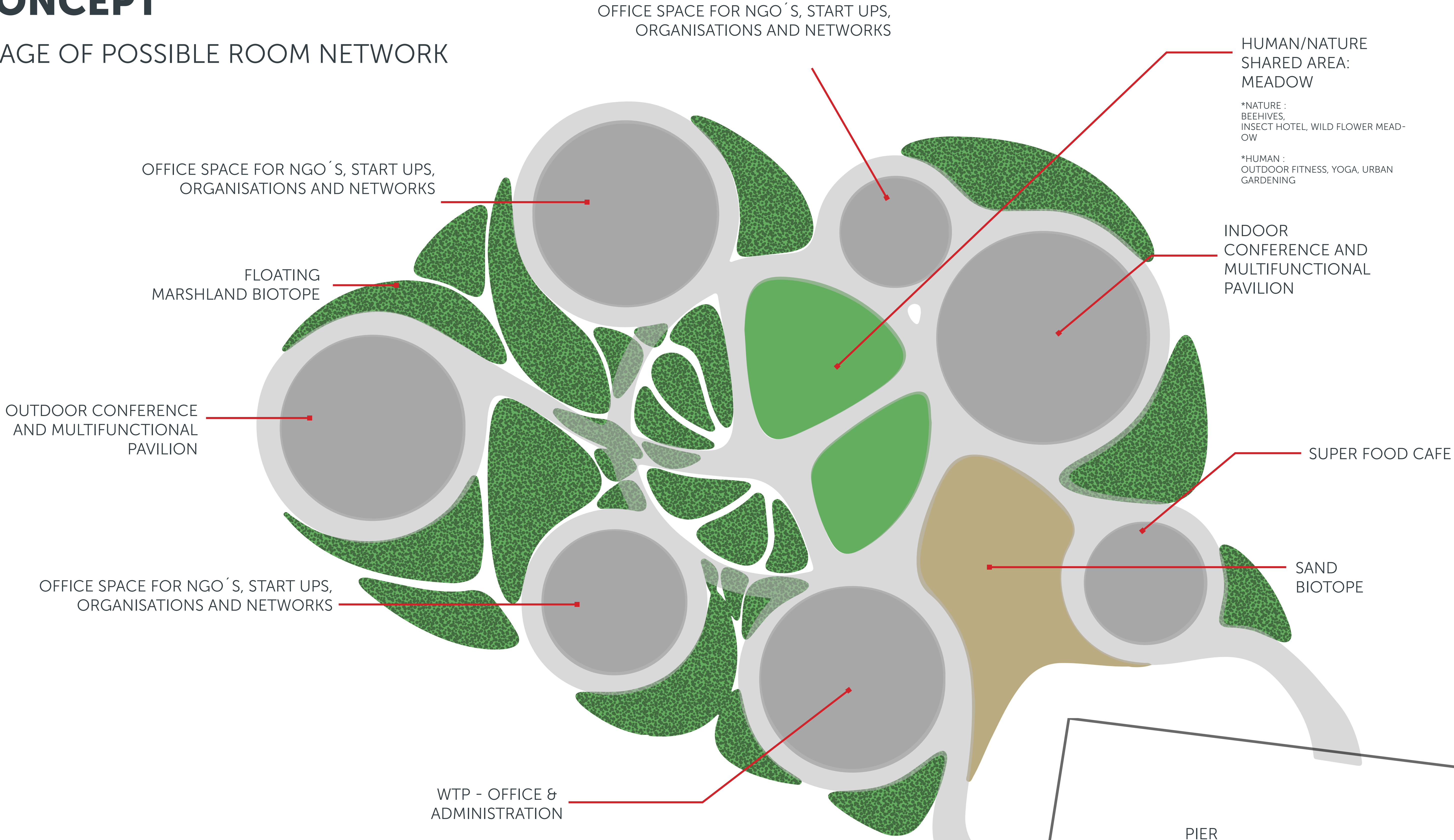
USAGE

Shared spaces

Use of the **WeThePlanet Campus** is based on the understanding that **shared spaces** will be playing an increasingly important role in the future, both for reasons of efficiency and for reasons of **communicative interaction**. The whole WTP platform was based on the idea of a space divided up between a **natural biotope and human use**. However, even the division of the areas used by people is governed by this idea, with the various pavilions with their office and conference areas being used in equal measure by both WeThePlanet and similarly committed startups, organizations, institutes and **networks**. It will be possible to hold not only the larger summits but also educational exhibitions and workshops in **multifunctional rooms**. Both the platform's outdoor area and the health food café will be **public**. This will promote the exchange of opinions with visitors, ensuring that the **green platform** becomes a place of **public interest**.

CONCEPT

USAGE OF POSSIBLE ROOM NETWORK



CONCEPT

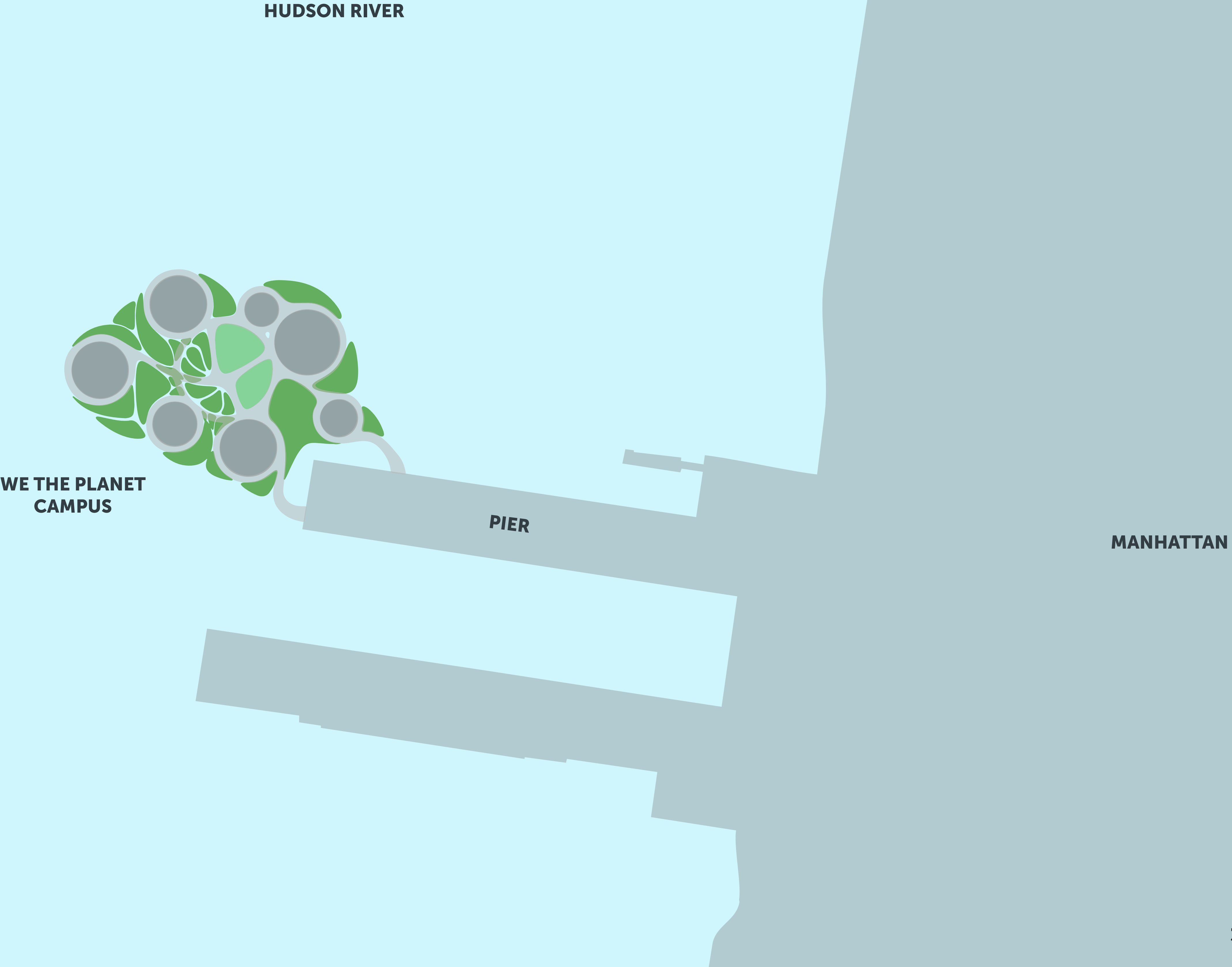
PROPOSED LOCATION

Flood-resilient architecture

The WTP Campus' **floating platform** is a piece of real estate that is future-oriented, **mobile and unaffected by rising sea levels**. In the concept under consideration it is located off the Hudson River Piers facing Manhattan. In view of the **current transformation of docks** into local recreation areas such places could represent an ideal link to the city in question. By creating a **floating natural biotope**, the WTP platform extends the tightly-packed land area that is Manhattan by an **extra piece of greenery**. This **partly public platform** not only represents an additional **destination for New Yorkers** for sports, leisure and communication, but also an attractive new honeypot for western Manhattan. An option exists to extend the principle of the **floating green platform** and to install other **floating parks** and green running courses along the shoreline.

CONCEPT

PROPOSED LOCATION



design



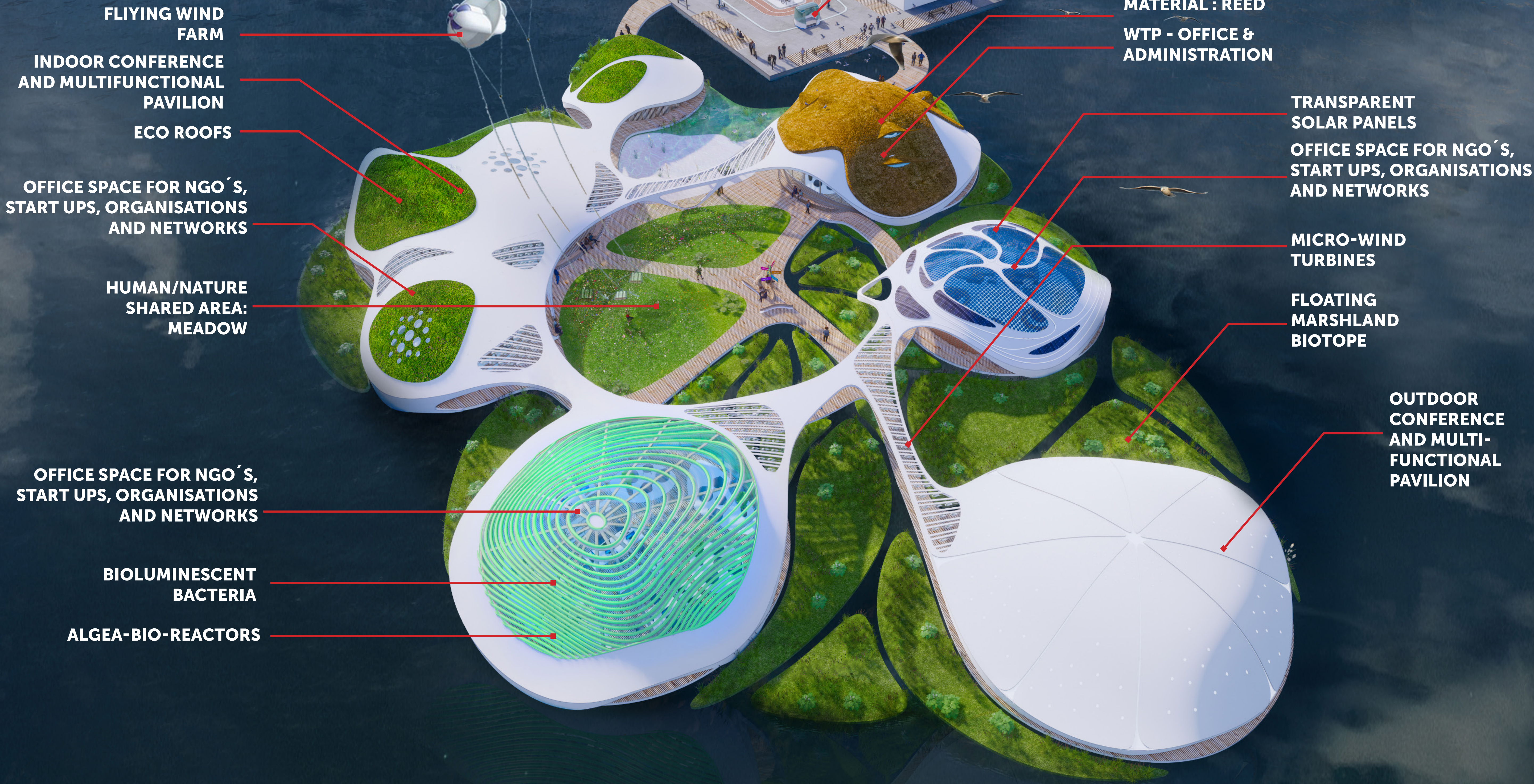
DESIGN

VISUALISATION - TOPVIEW ROOF



DESIGN

VISUALISATION - 01



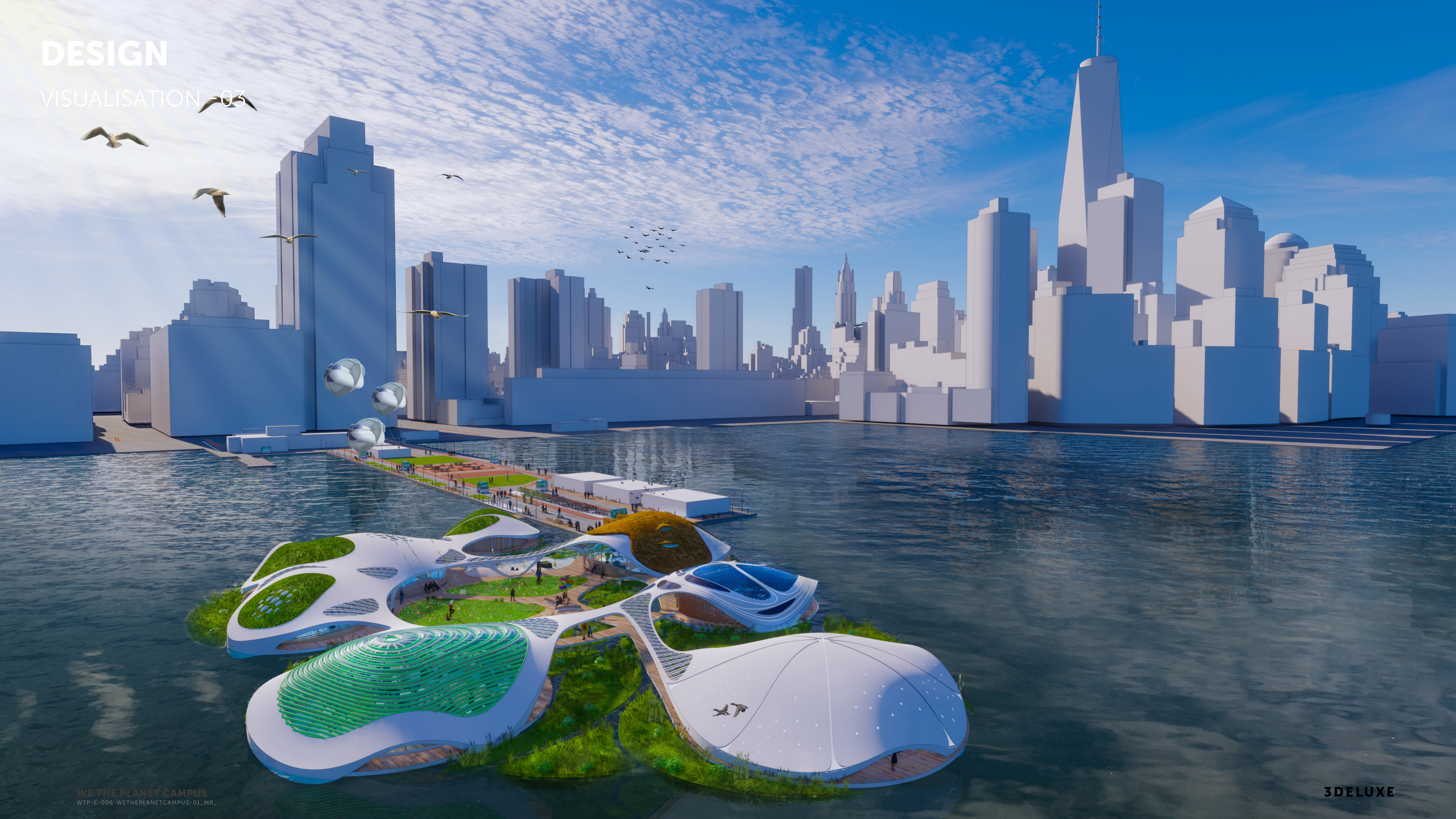
DESIGN

VISUALISATION - 02



DESIGN

VISUALISATION - 03



DESIGN

CLOSE UP- CENTER OF CAMPUS



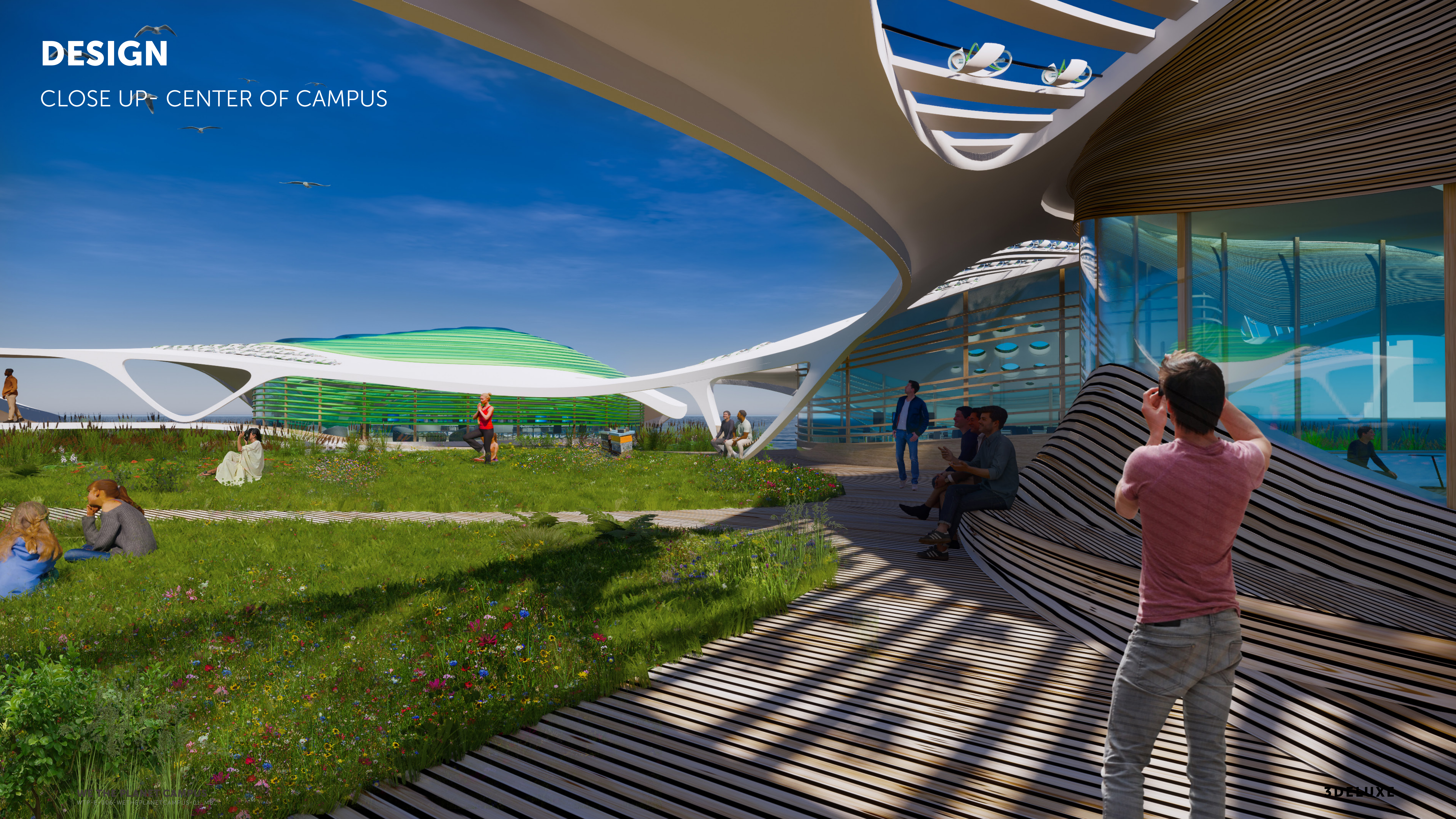
DESIGN

CLOSE UP - SAND BIOTOPE



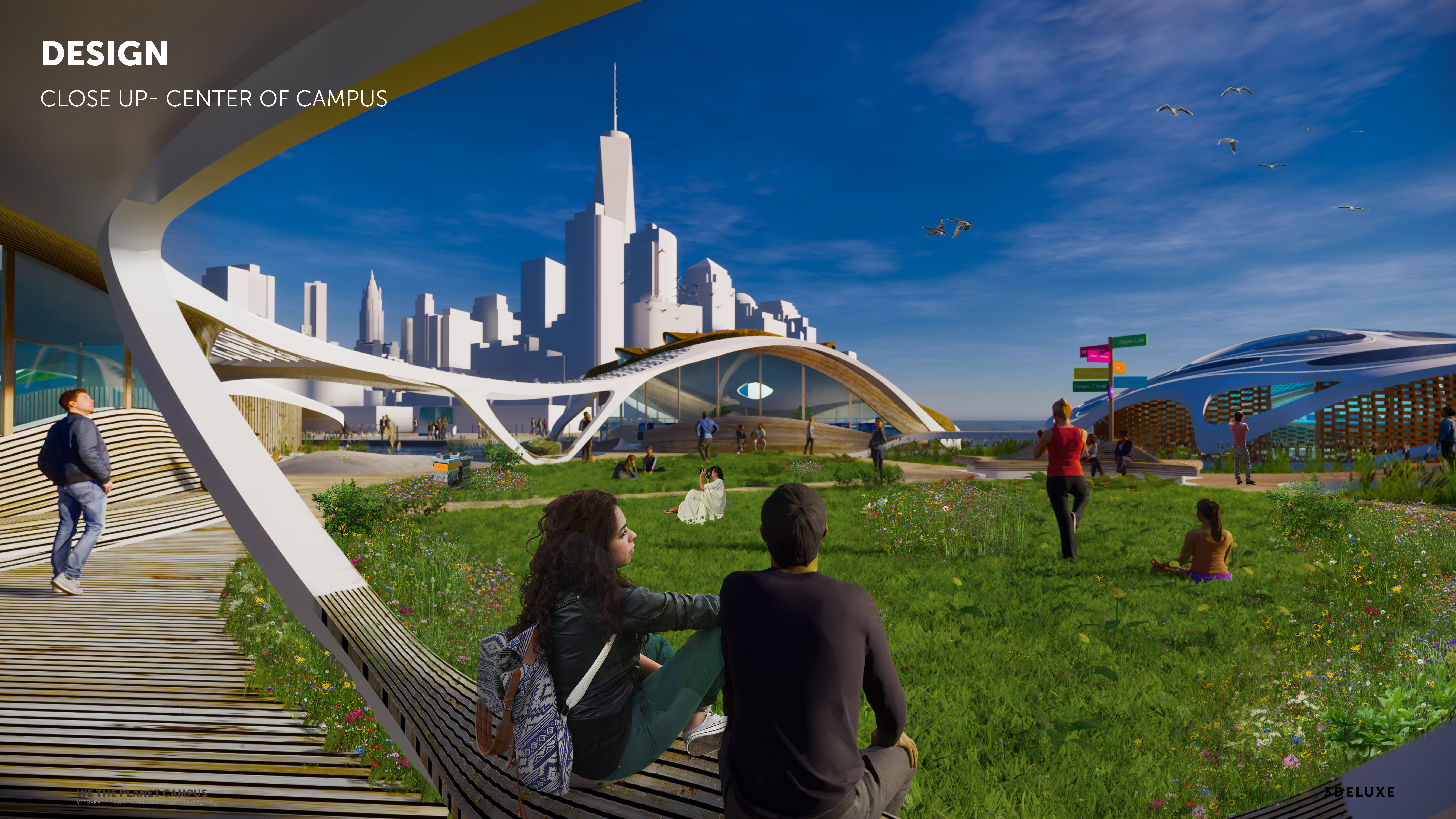
DESIGN

CLOSE UP- CENTER OF CAMPUS



DESIGN

CLOSE UP- CENTER OF CAMPUS



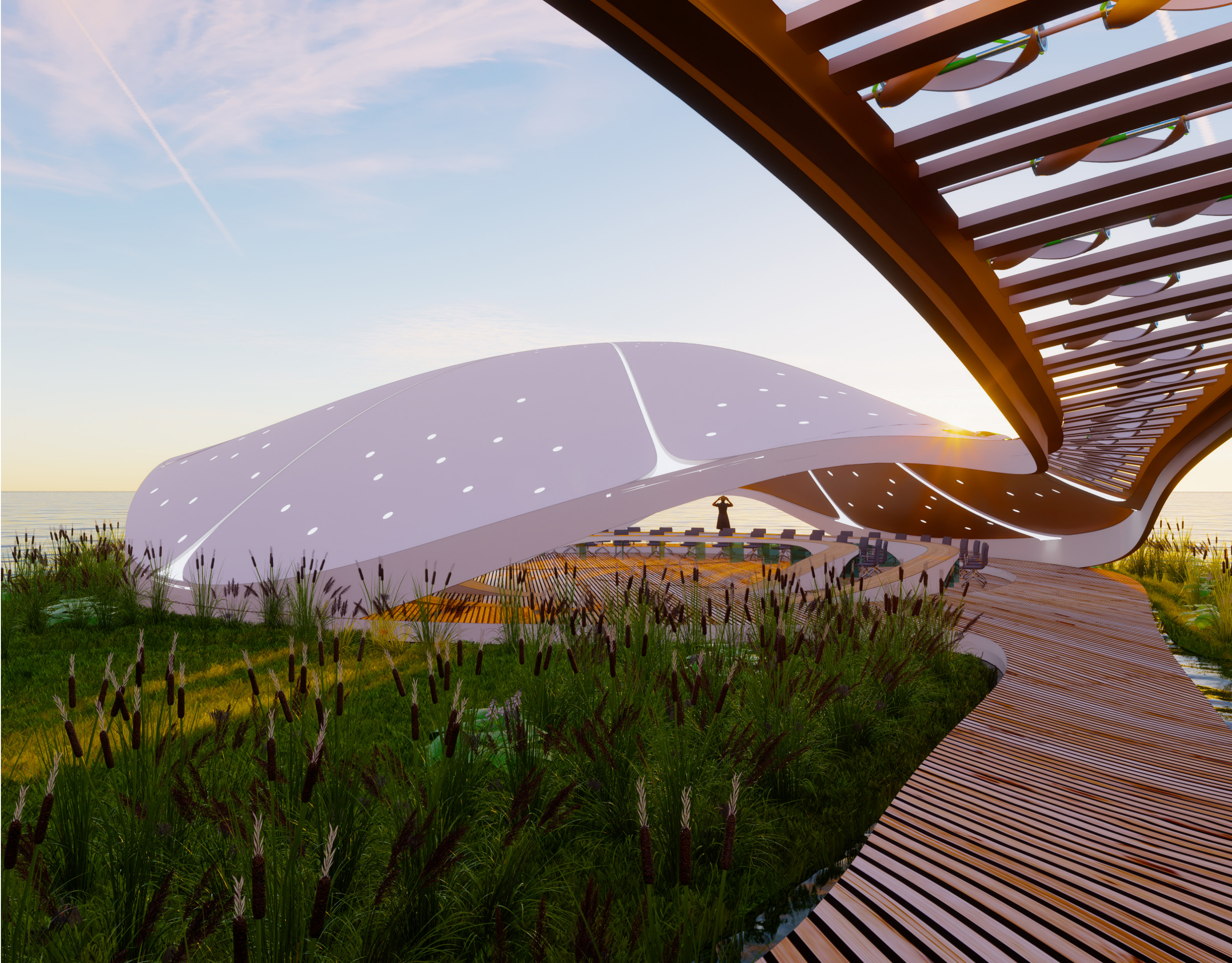
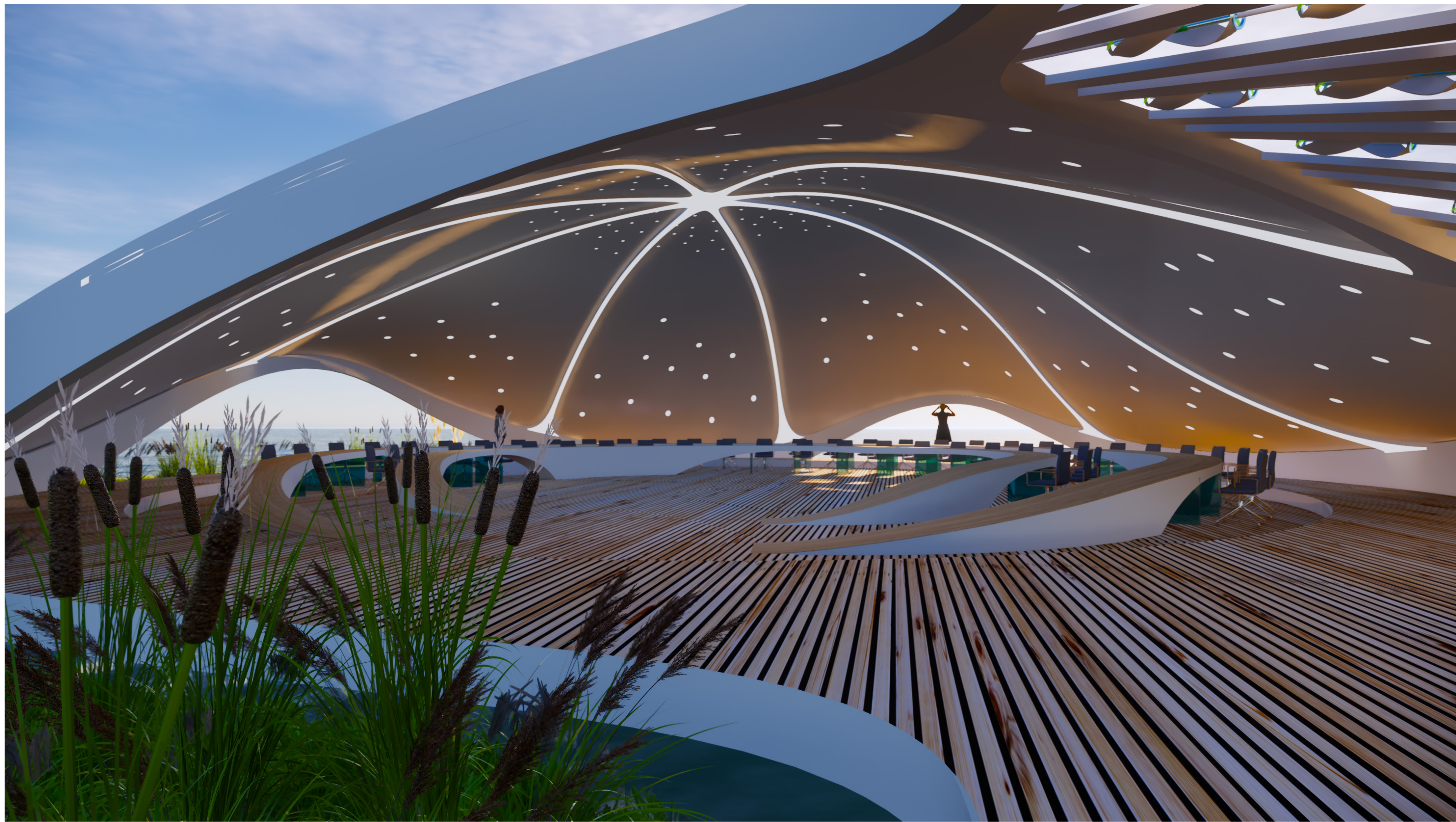
DESIGN

CLOSE UP - FLOATING MARSHLAND BIOTOPES



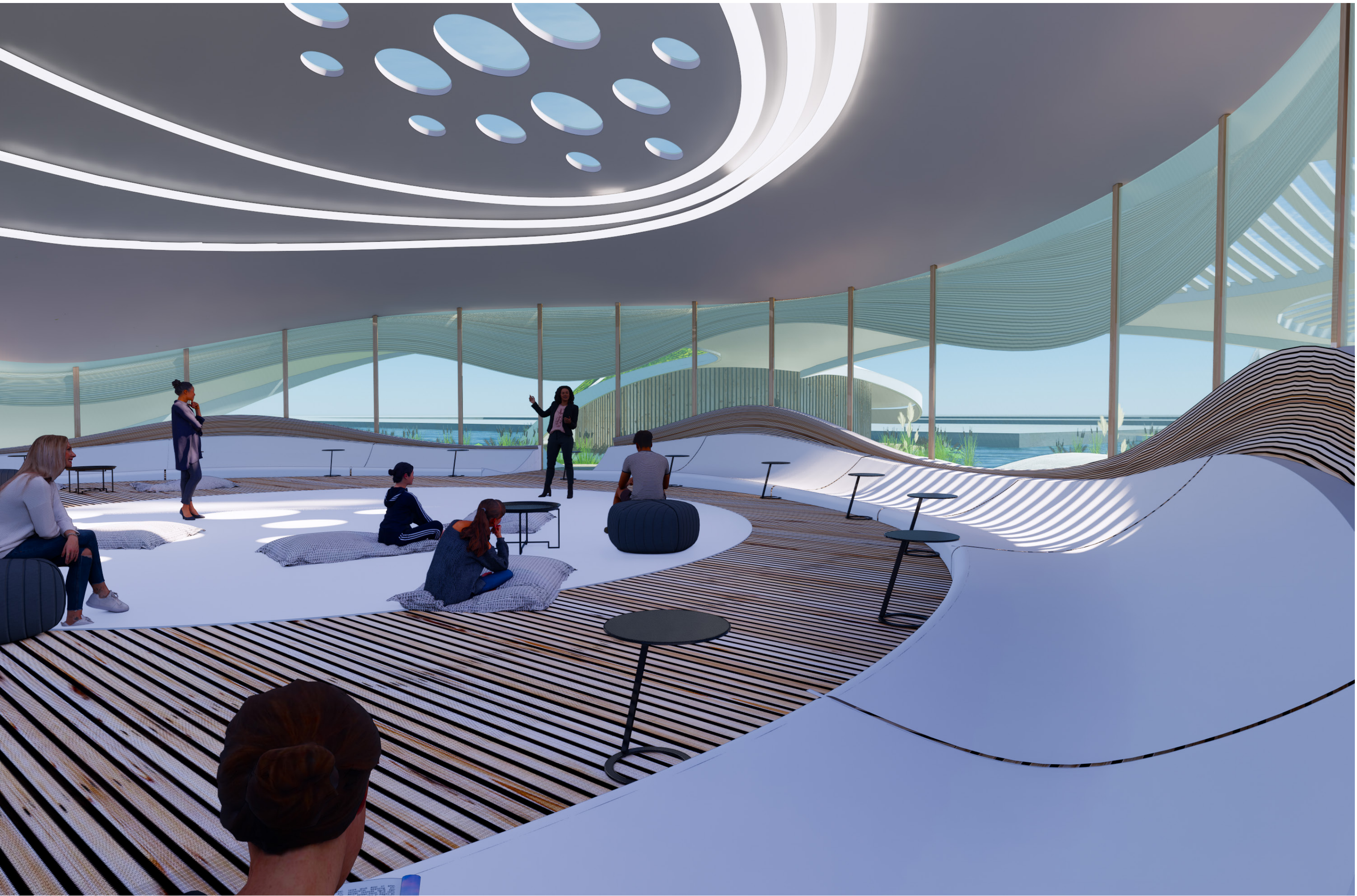
DESIGN

CLOSE UP - MODULAR USE , OUTDOOR CONFERENCE PAVILION



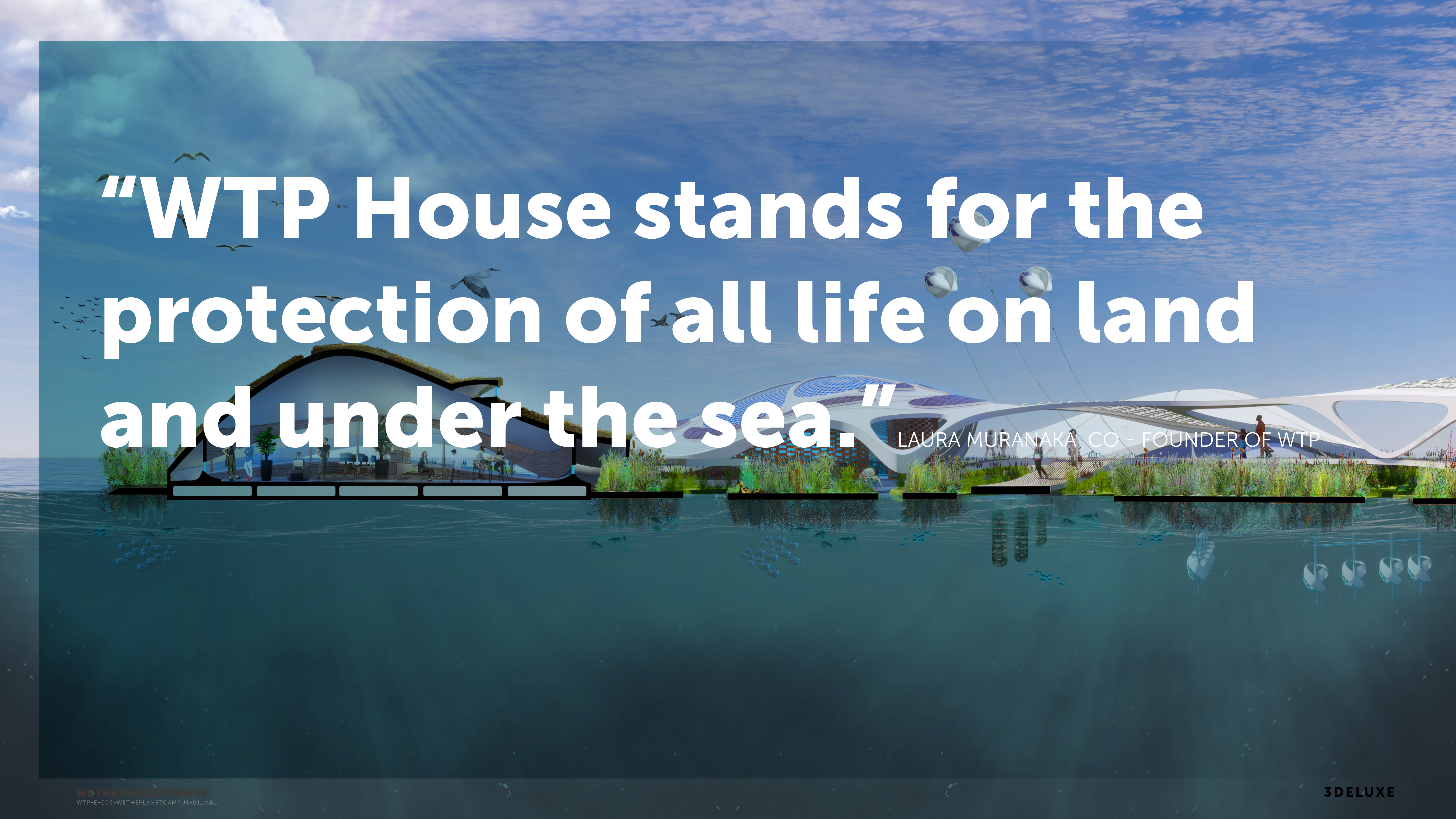
DESIGN

CLOSE UP- EXEMPLARY INTERIOR SPACES | OFFICE, INDOOR CONFERENCE



innovation



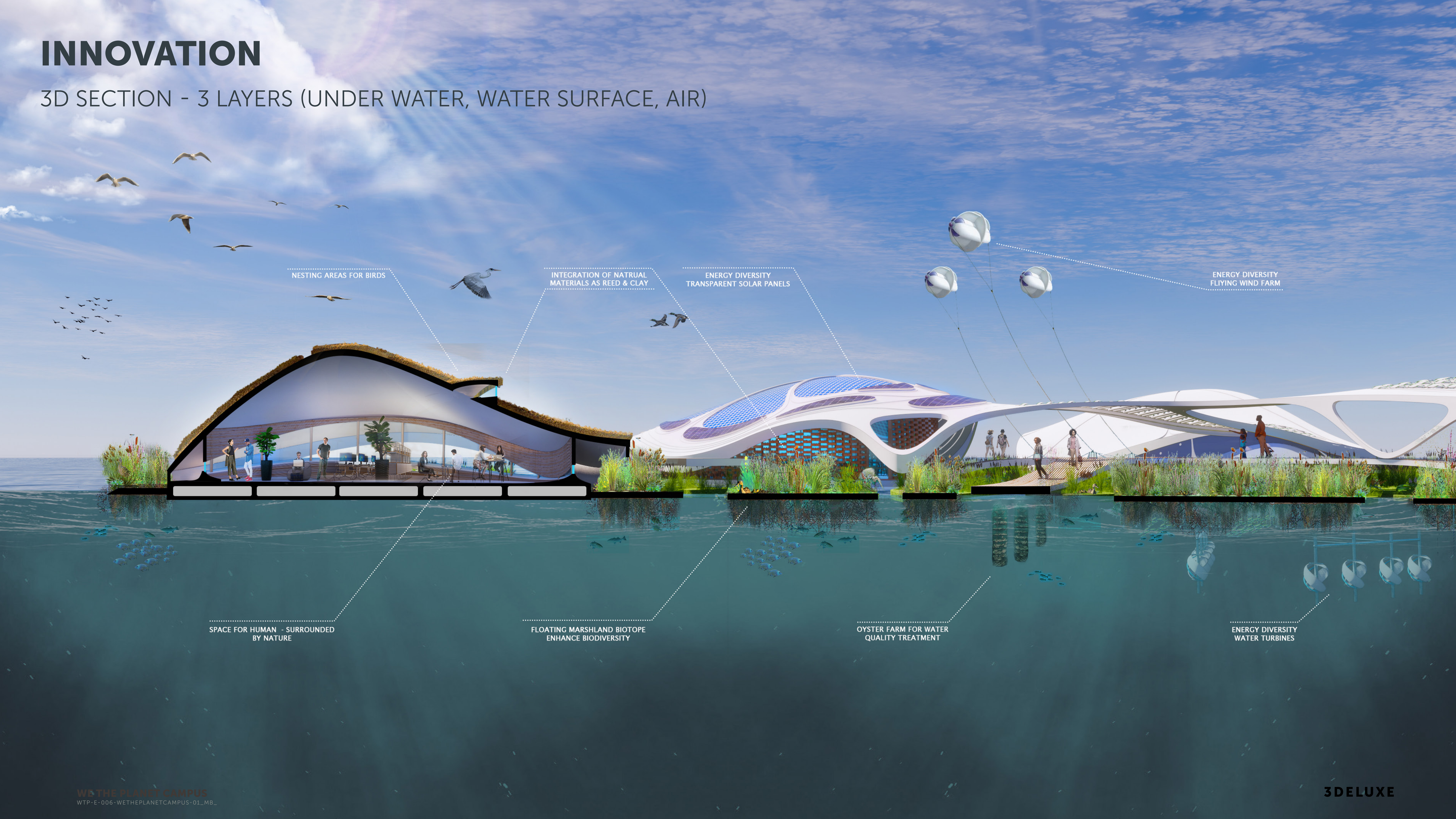


“WTP House stands for the protection of all life on land and under the sea.”

LAURA MURANAKA CO - FOUNDER OF WTP

INNOVATION

3D SECTION - 3 LAYERS (UNDER WATER, WATER SURFACE, AIR)



NESTING AREAS FOR BIRDS

INTEGRATION OF NATURAL MATERIALS AS REED & CLAY

ENERGY DIVERSITY TRANSPARENT SOLAR PANELS

ENERGY DIVERSITY FLYING WIND FARM

SPACE FOR HUMAN - SURROUNDED BY NATURE


FLOATING MARSHLAND BIOTOPE ENHANCE BIODIVERSITY

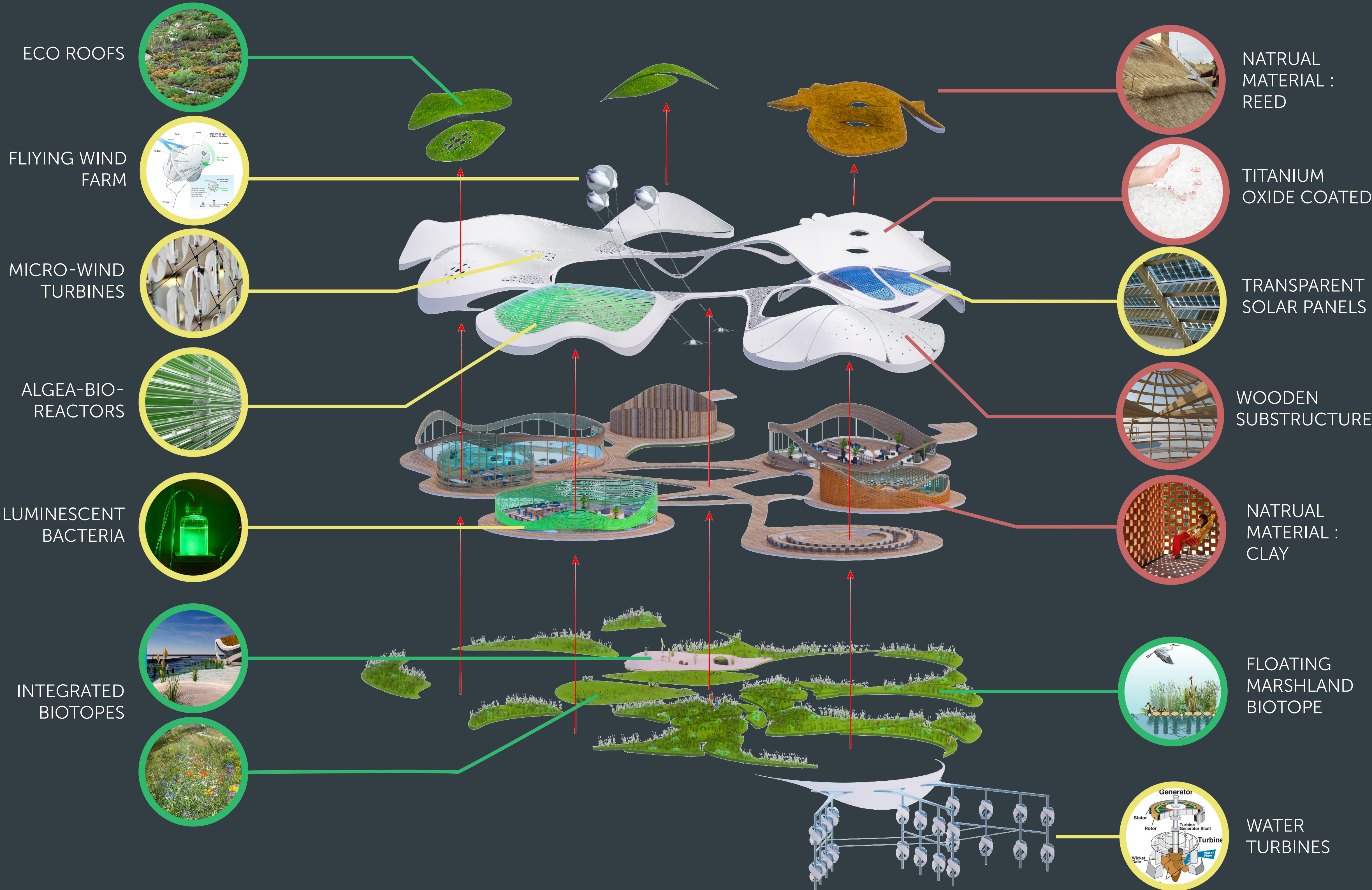
OYSTER FARM FOR WATER QUALITY TREATMENT

ENERGY DIVERSITY WATER TURBINES

INNOVATION

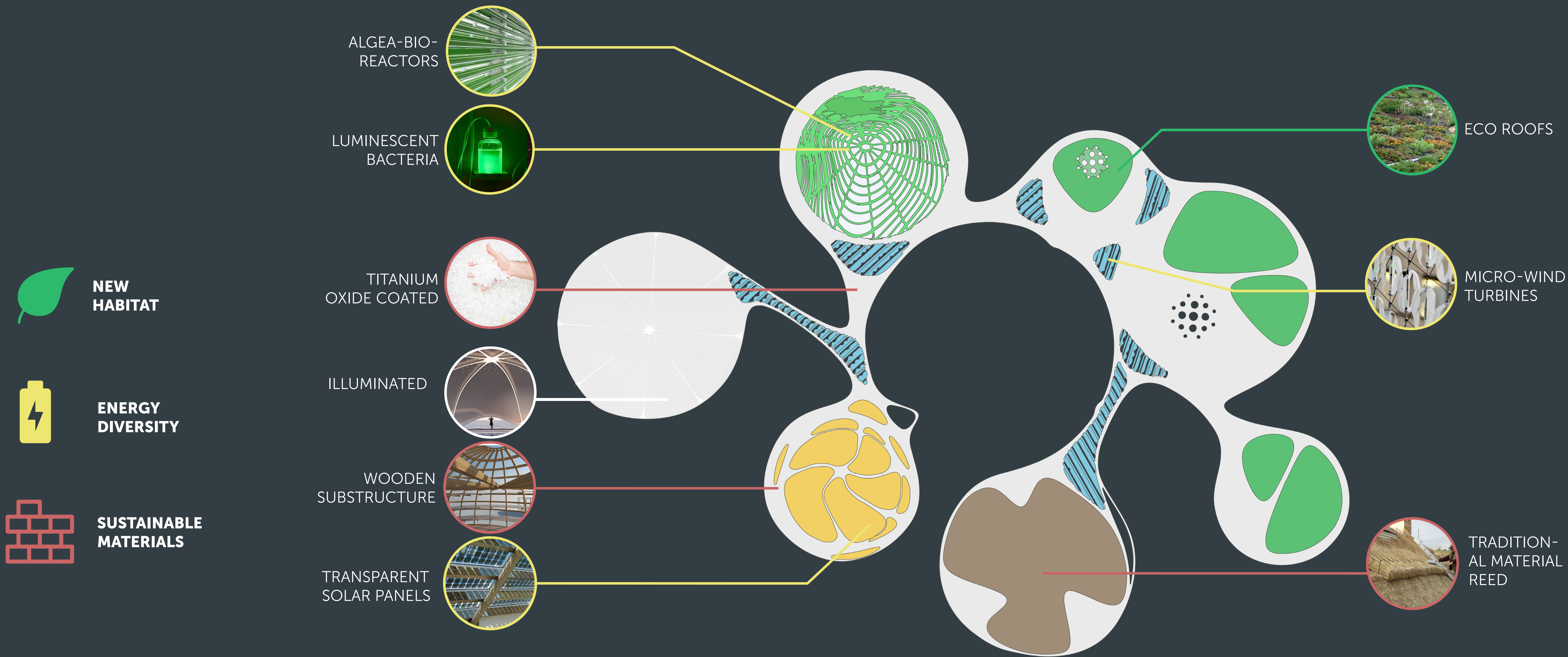
EXPLOSION DRAWING

-  **NEW HABITAT**
-  **ENERGY DIVERSITY**
-  **SUSTAINABLE MATERIALS**



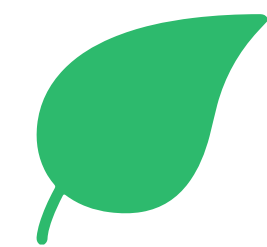
INNOVATION

DESCRIPTION OF ROOF MATERIAL & TECHNOLOGY



INNOVATION

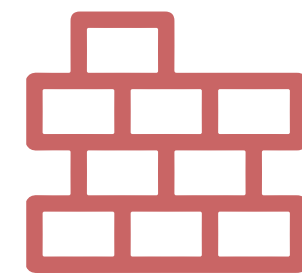
MATERIAL & TECHNOLOGY



new habitats



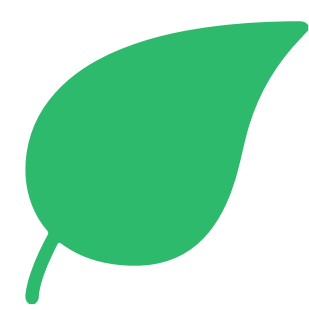
energy diversity



sustainable materials

INNOVATION

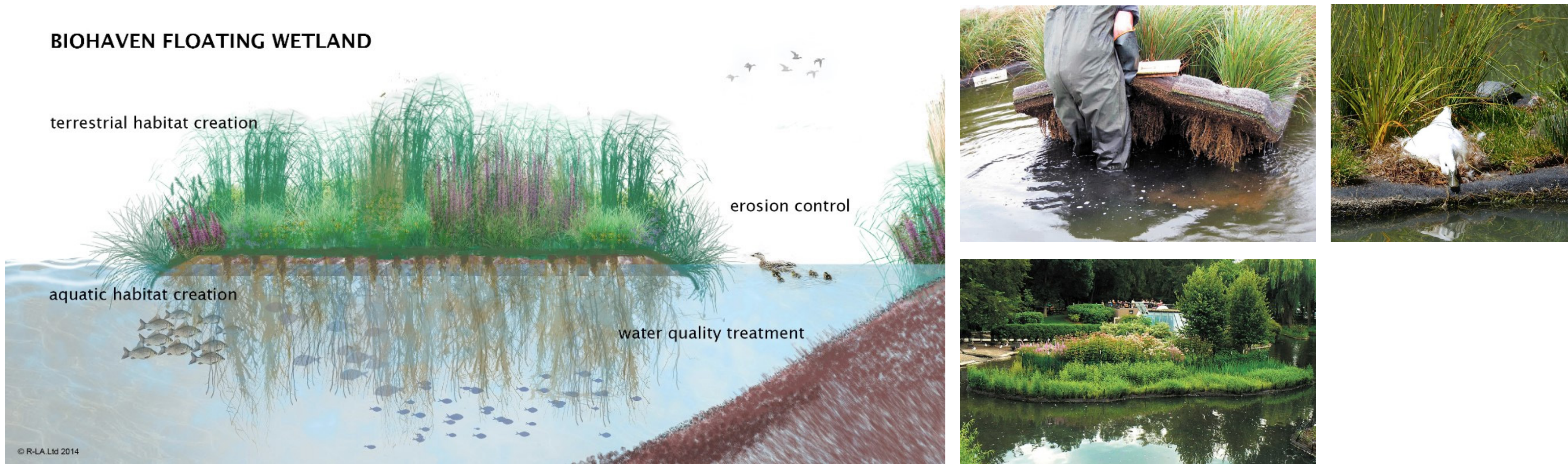
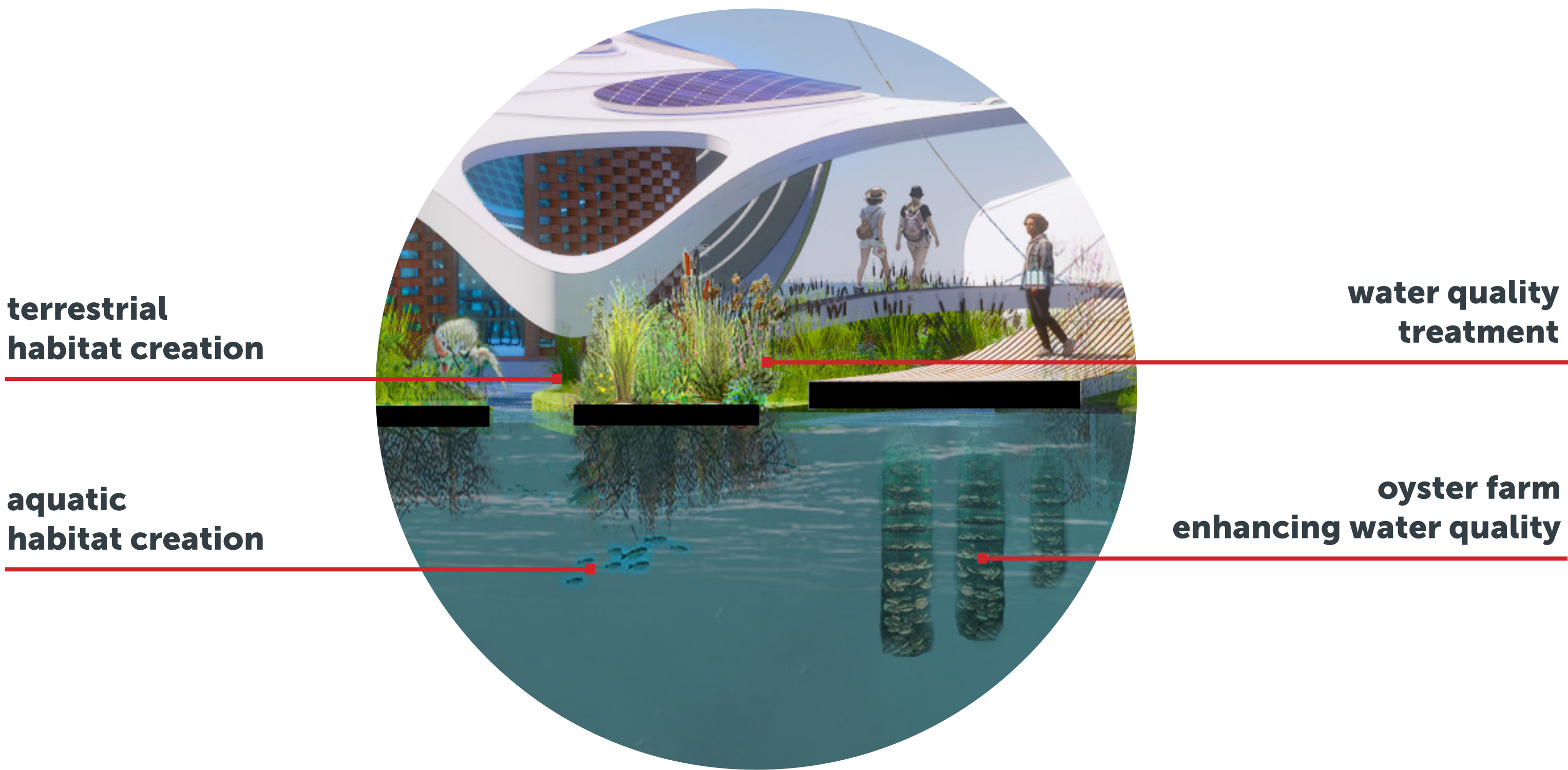
MATERIAL & TECHNOLOGY



new habitats floating marshland biotope

Floating Biotopes are an excellent way to enhance biodiversity. The hanging roots of the plants pull up nutrients from the water and form the perfect environment for microbes to grow. Microbes are the basic componnt for every food webb.

Moreover floating habitats improve water quality by leveraging biofilm and microbial activity on the long plant roots and the substrate matrix. Hereby they help managing Total Phosphorous (TP) and reduce total Nitrogen (TN), total suspended solids (TSS), dissolved organic carbon (DOC), copper and zinc in the water.



https://www.michigan.gov/documents/deq/deq-tou-GLSL-GIC_Boos-FloatingIslands_577384_7.pdf
<https://www.environmental-expert.com/products/biohaven-floating-system-538961>

INNOVATION

MATERIAL & TECHNOLOGY



new habitats integrated biotopes

The integration of different habitats is intended to promote biodiversity for a wide variety of species. The interlinking of areas for people and habitats for animals reflects the give and take of human and nature and should function in a balanced way.

The campus should not only be understood as a network from human to human, but rather as a network of living beings of different species.
The campus should be used as an educational platform on which youth and elders can permanently learn something from our animal inhabitants.

sand - gravel biotope



habitat for several
amphibian species

wild flower meadow



habitat for insects like
bees and butterflies

INNOVATION

MATERIAL & TECHNOLOGY

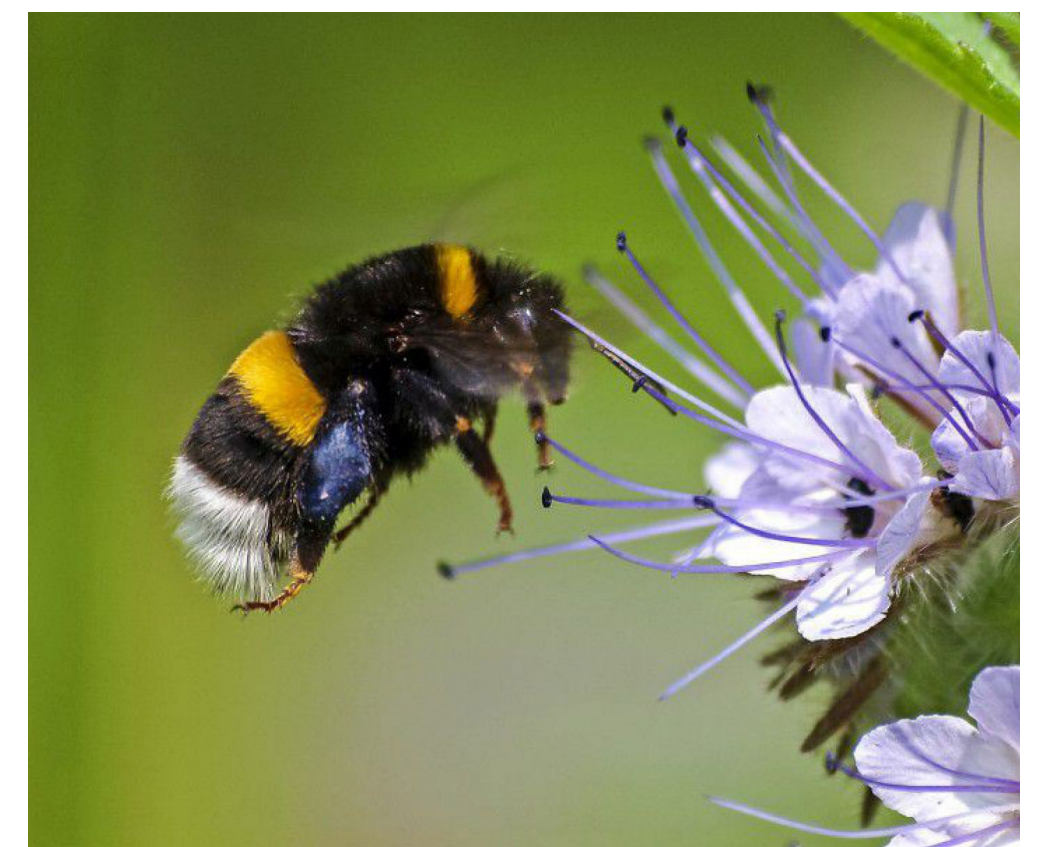


new habitats ecoroofs

Looking great, energy efficient and environmentally friendly too, green roofs better utilise an often neglected area.

Each green roof will support varying habitats, dependent largely on the type of vegetation included. According to a survey in Switzerland, the study of 11 green rooftops found there to be an incredible 172 separate species.

Moreover green roofs help to improve the overall air quality. According to a study, green roofs help reduce up to: 37% of sulfur dioxide, 21% of nitrous acid
0.2kg of dust particles / square metre each year.

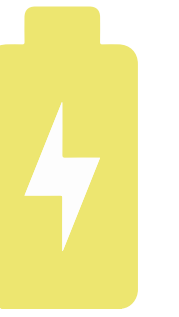


<https://climate-adapt.eea.europa.eu/metadata/case-studies/green-roofs-in-basel-switzerland-combining-mitigation-and-adaptation-measures-1>

https://www.researchgate.net/publication/222705703_Quantifying_air_pollution_removal_by_green_roofs_in_Chicago

INNOVATION

MATERIAL & TECHNOLOGY



energy diversity wind energy



An airborne wind turbine is a design concept for a wind turbine with a rotor supported in the air without a tower. The electrical generator is placed on the ground.

<https://www.lowtechmagazine.com/2007/11/floating-windmi.html>

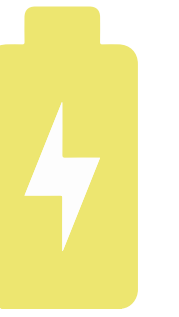


A net made out of micro-wind turbines is not mayor energy generator, but acts as an add on to the diverse energy setup of the autonomous, mobile neobiota design.

<http://tech.mit.edu/V131/N26/graphics/artatMIT-1.html>

INNOVATION

MATERIAL & TECHNOLOGY

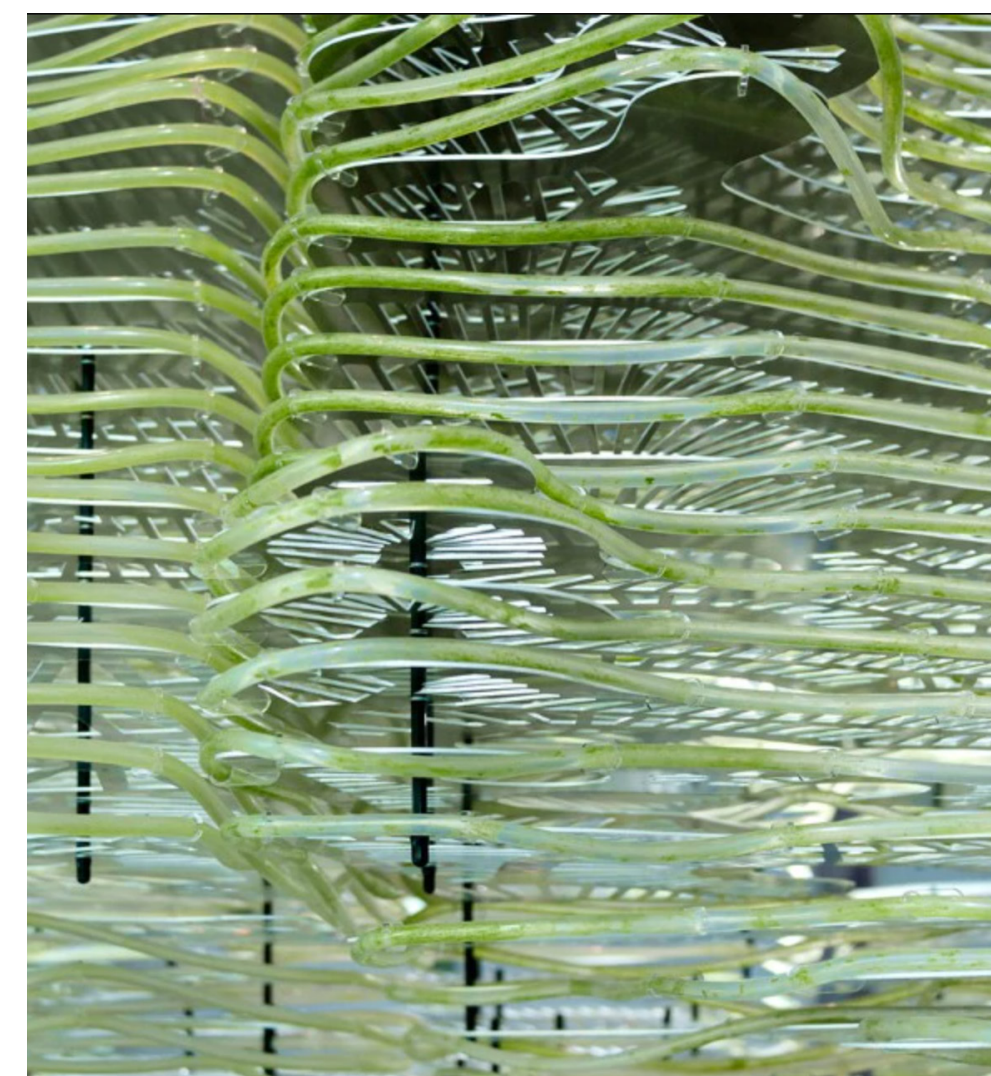


energy diversity bio-energy



Bioluminescent bacteria convert methane gas into energy and can light up the “We the Planet” House during night time

<http://www.theshitmuseum.org/the-museum/bioluminescent-bacteria-a-simulation/>

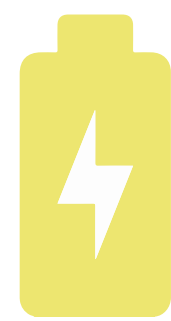


Algae-bio-reactors not only produce biomass that can subsequently be harvested, but they also capture solar thermal heat. Both energy sources can be used to power buildings. This means that photosynthesis is driving a dynamic response to the amount of solar shading required, while the micro-algae growing in the glass provide a clean source of renewable energy.

<https://inhabitat.com/the-worlds-first-algae-powered-building-opens-in-hamburg/>
https://www.schott.com/magazine/english/sol114/sol114_04_photobioreaktor.html

INNOVATION

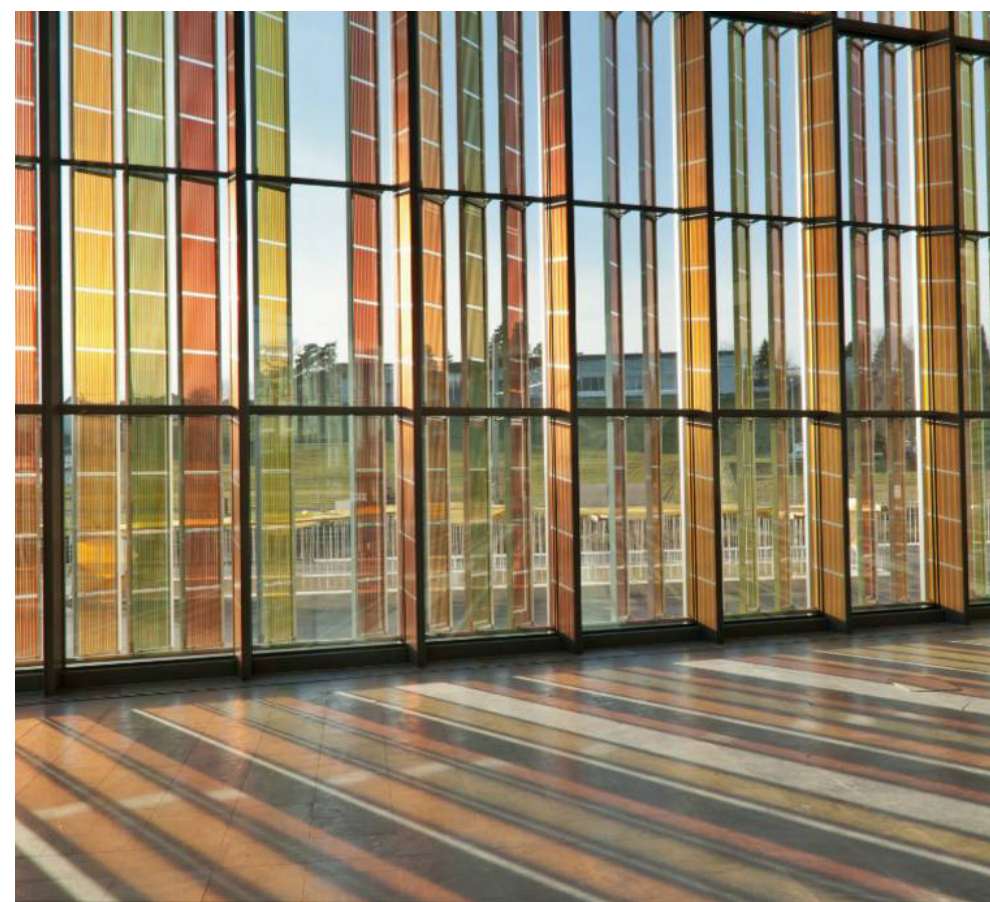
MATERIAL & TECHNOLOGY



energy diversity sun energy



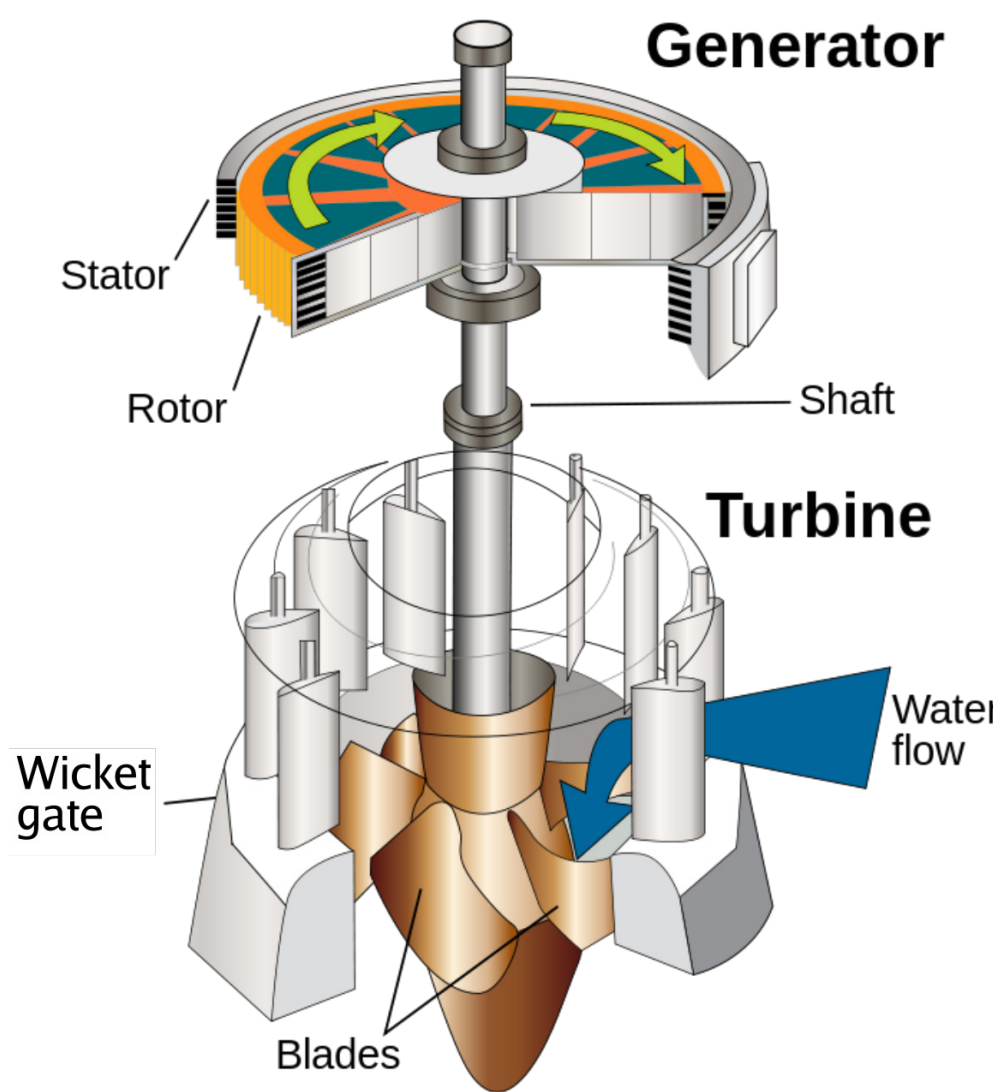
For a long time bulky solar collectors were the only option. They were installed on roof tops as an add on, with little design quality.



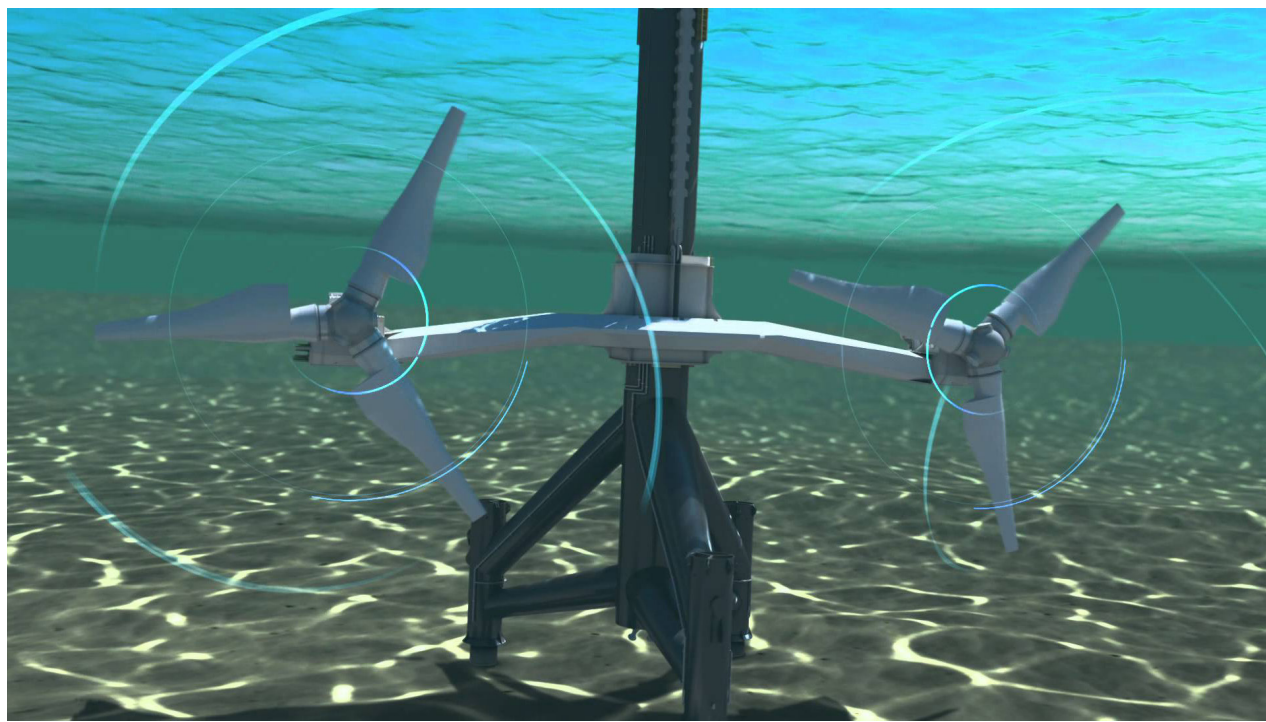
Lately companies, that offer integrated solutions, are revolutionizing the market. Transparent solar panels, slim and flexible as a sheet of paper, different colors and customizabel patterns are now a stylish option that compliment the buildings design.

<https://opvius.com/>

water energy



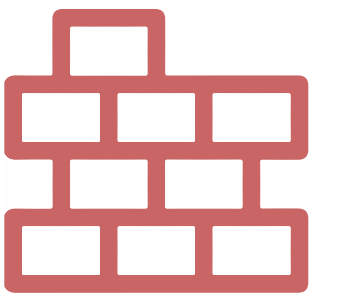
Technological advances also make it possible to generate energy from slow moving water. This is a further add on to the diverse energy setup of the “We the Planet” House. Long term green energy strategies rely heavily on a balanced energy mix.



<https://waterotor.com/>

INNOVATION

MATERIAL & TECHNOLOGY



sustainable materials natural & traditional

Natrual materials pose a simple and aesthetic way to built sustainably. They are renewable and produced with low-tech processes, which consume little energy.

However they often come across as a little uncouth. For years now designers have experimented with traditional materials such as **clay** and **reed** in order to find a modern aesthetic and free them of their undeserved reputation.

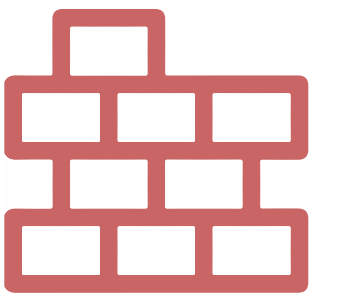


<https://www.archdaily.com/915456/tij-observatory-ro-and-ad-architecten>

<https://www.archdaily.com/785011/experimental-brick-pavilion-estudio-botteri-connell>

INNOVATION

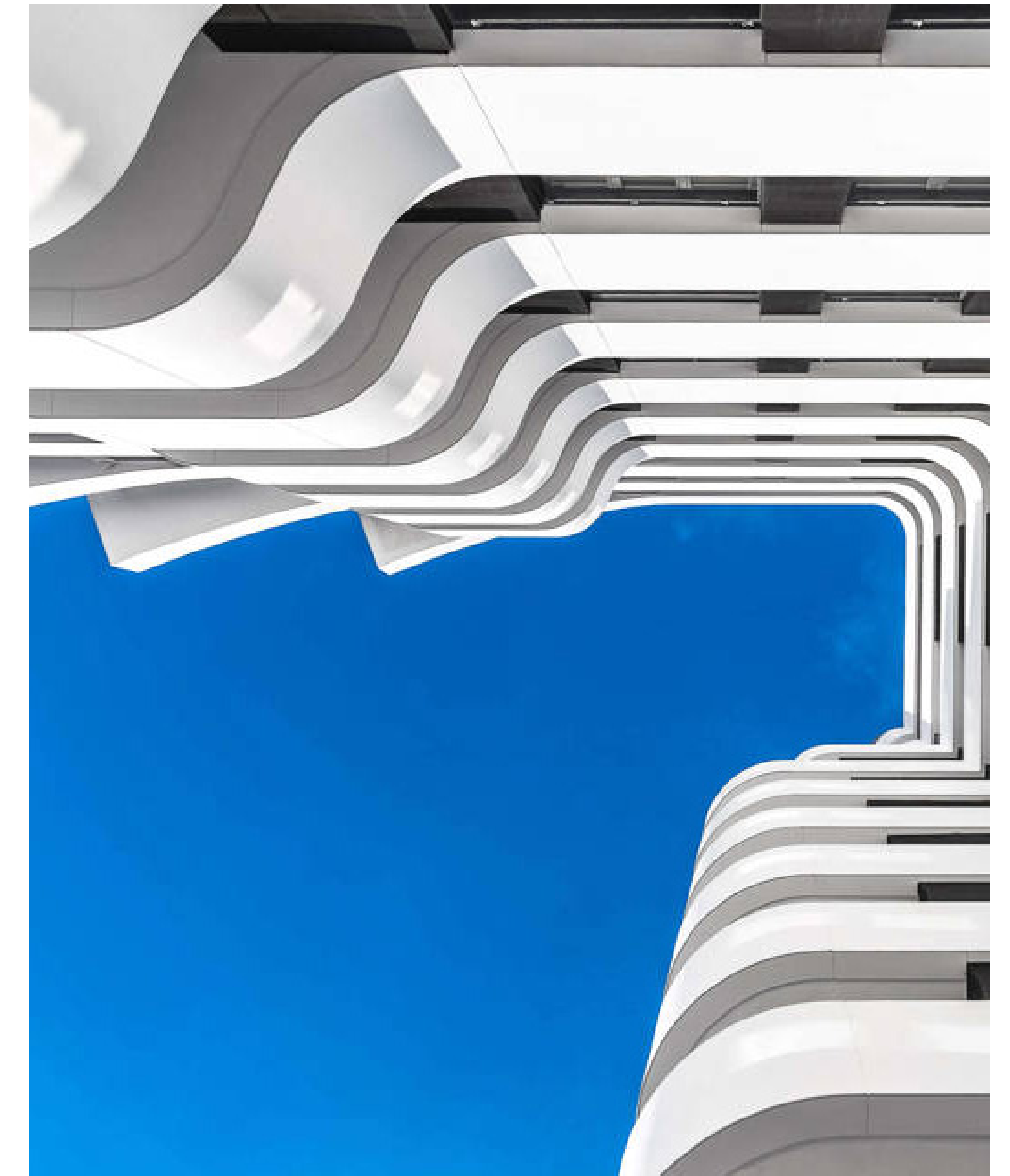
MATERIAL & TECHNOLOGY



sustainable materials cleansing & nutritious

Photocatalysis occurs when light hits the surface of certain minerals like titanium oxide, causing it to come into contact with the humidity and oxygen in the environment. From this mixture, molecules which have the ability to join to other contaminating particles in the environment, produce complex molecules that are not harmful to humans.

A facade coated with titanium oxide can defuse 0.26 gram of nitrogen oxide per squaremeter. That equals the air pollution of seven cars per day. Furthermore the photocatalytic process creates nitrate, which is a powerfull vertilizer for plants. Washed down by rain and absorbed by the soil, it enhances a cities greenery.

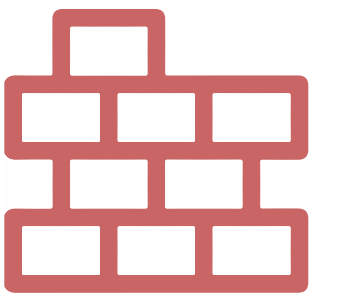


<https://www.krion.com/en/news/krion-klife>

<http://www.elegantembellishments.net/home-1/>

INNOVATION

MATERIAL & TECHNOLOGY



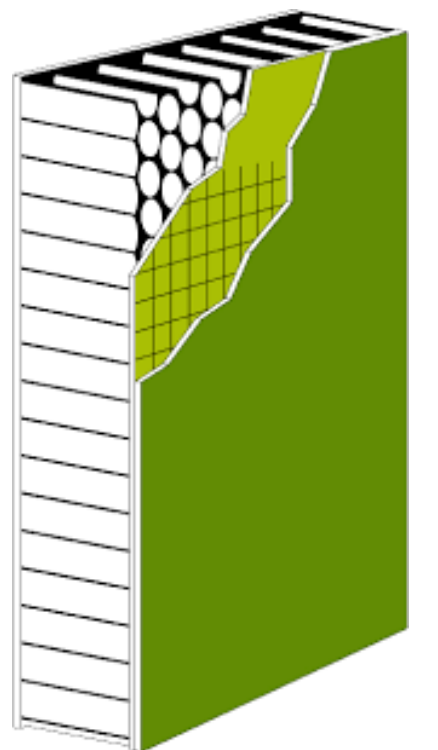
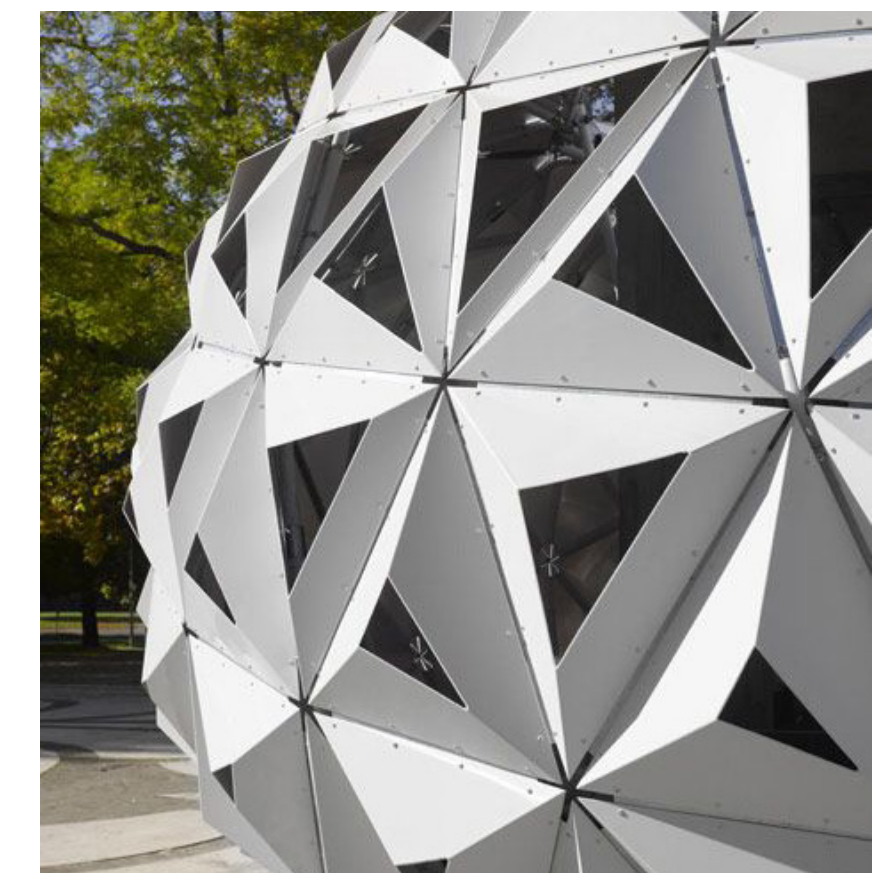
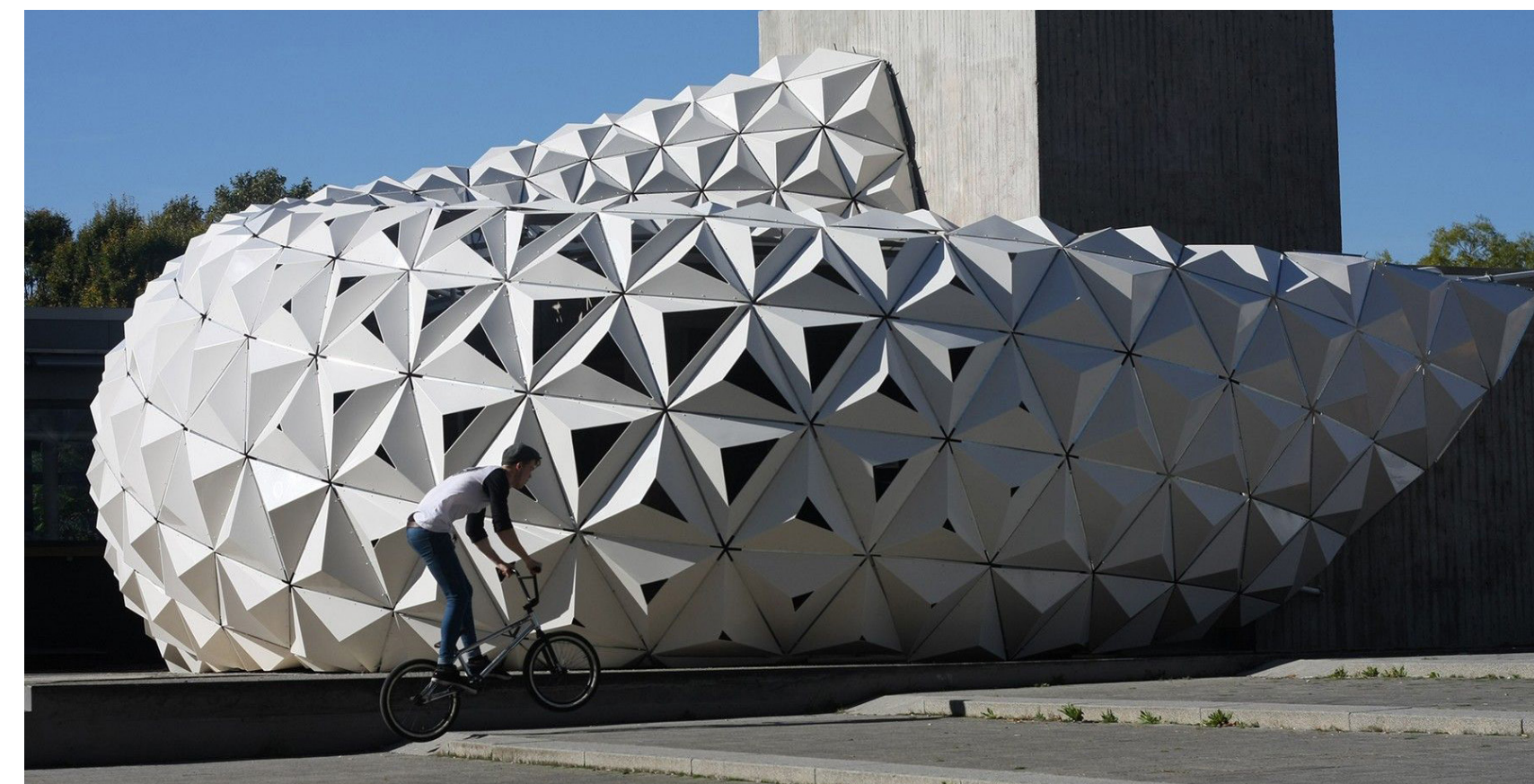
sustainable materials

bioplastic & recycled plastics

The floating pontoon-structure of neobiota is constructed from honeycomb cardboard coated with natural fibre-reinforced bioplastic. The roofing structure is white in order to help cooling the hot micro climate of it's harbouring city.

Thermoformable sheets of bioplastics represent a resource-efficient alternative, as they combine the high malleability and recyclability of plastics with the environmental benefits of materials consisting primarily of renewable resources.

However they do not tackle the question of how to proceed with the huge amount of plastic waste we have accumulated so far. Shredded and compressed the former waste can be used to create tasteful 3D-printed in- & outdoor furniture.



<https://www.archpaper.com/2020/10/newly-discovered-whitest-white-paint-could-help-cool-cities/>

<http://www.nfk-leichtbau.de/bilder/AG%20NFK-Leichtbau%20Infolyer.pdf>

<https://inhabitat.com/itke-constructs-new-arboskin-pavilion-with-388-recyclable-bioplastic-pyramids/>

<https://thenewraw.org/Material-processing>

implementation



IMPLEMENTATION

HUDSON RIVER



IMPLEMENTATION

HUDSON RIVER



IMPLEMENTATION

HUDSON RIVER



IMPLEMENTATION

HUDSON RIVER



modular extension



MODULAR EXTENSION

FLOATING PARK MODULES FOR PUBLIC



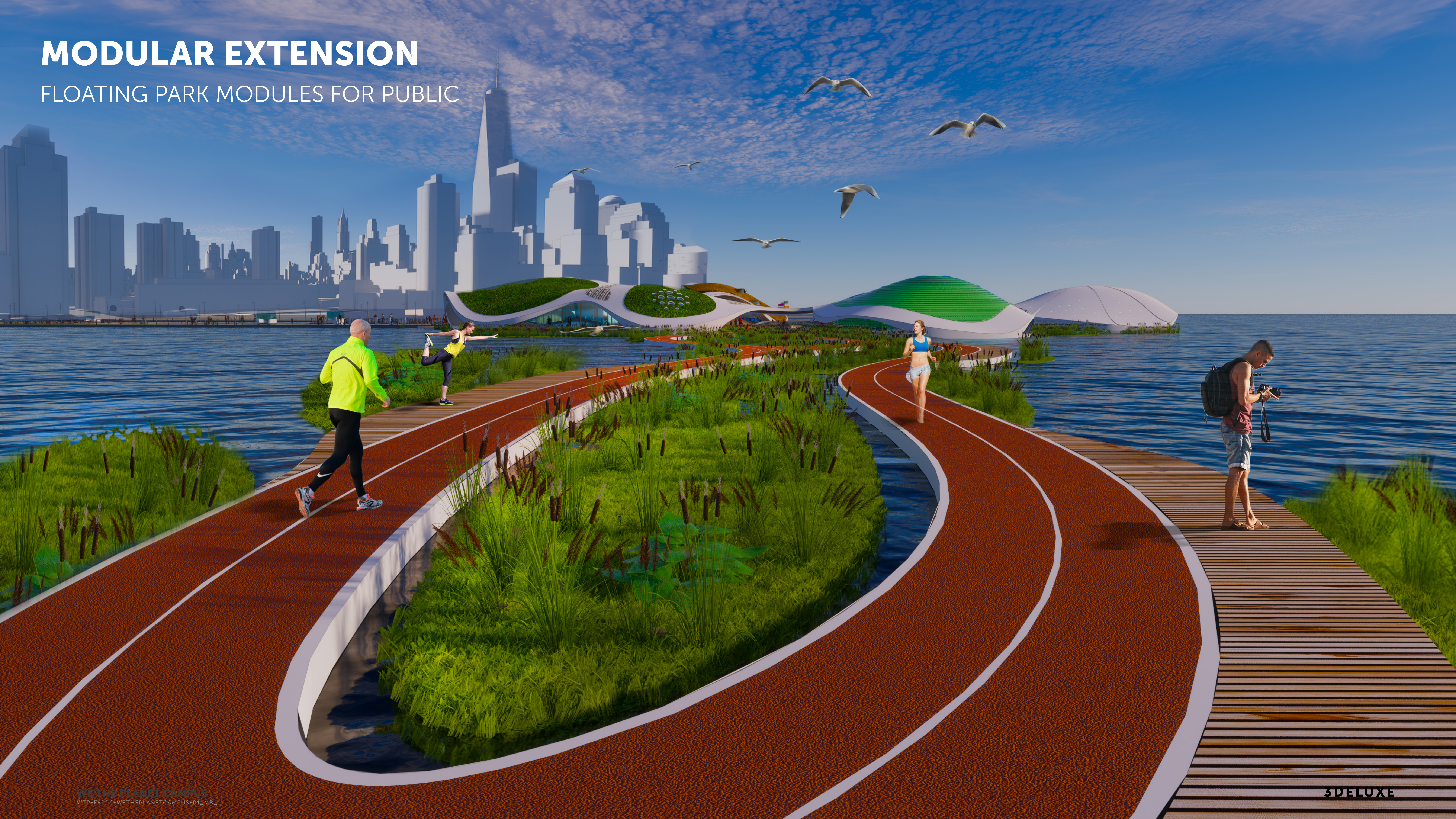
MODULAR EXTENSION

FLOATING PARK MODULES FOR PUBLIC



MODULAR EXTENSION

FLOATING PARK MODULES FOR PUBLIC



3DELUXE
TRANSDISCIPLINARY DESIGN

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thank you