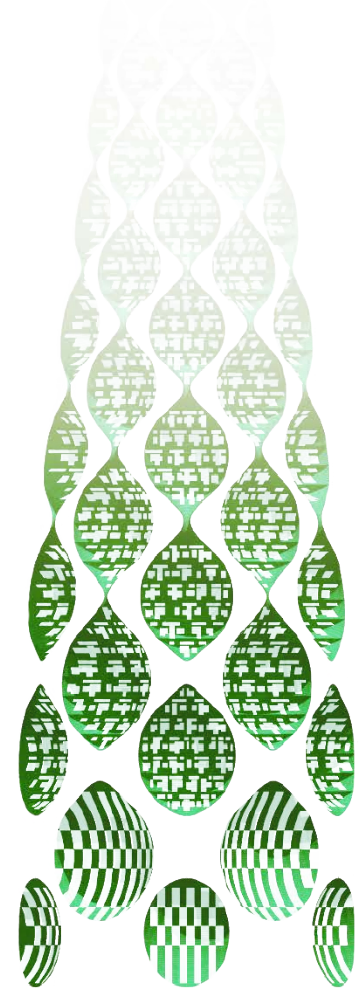


Vertical Oasis Project the Building

with Vertical Oasis Systems™

design by **F Δ Δ B**



Iconic Solution

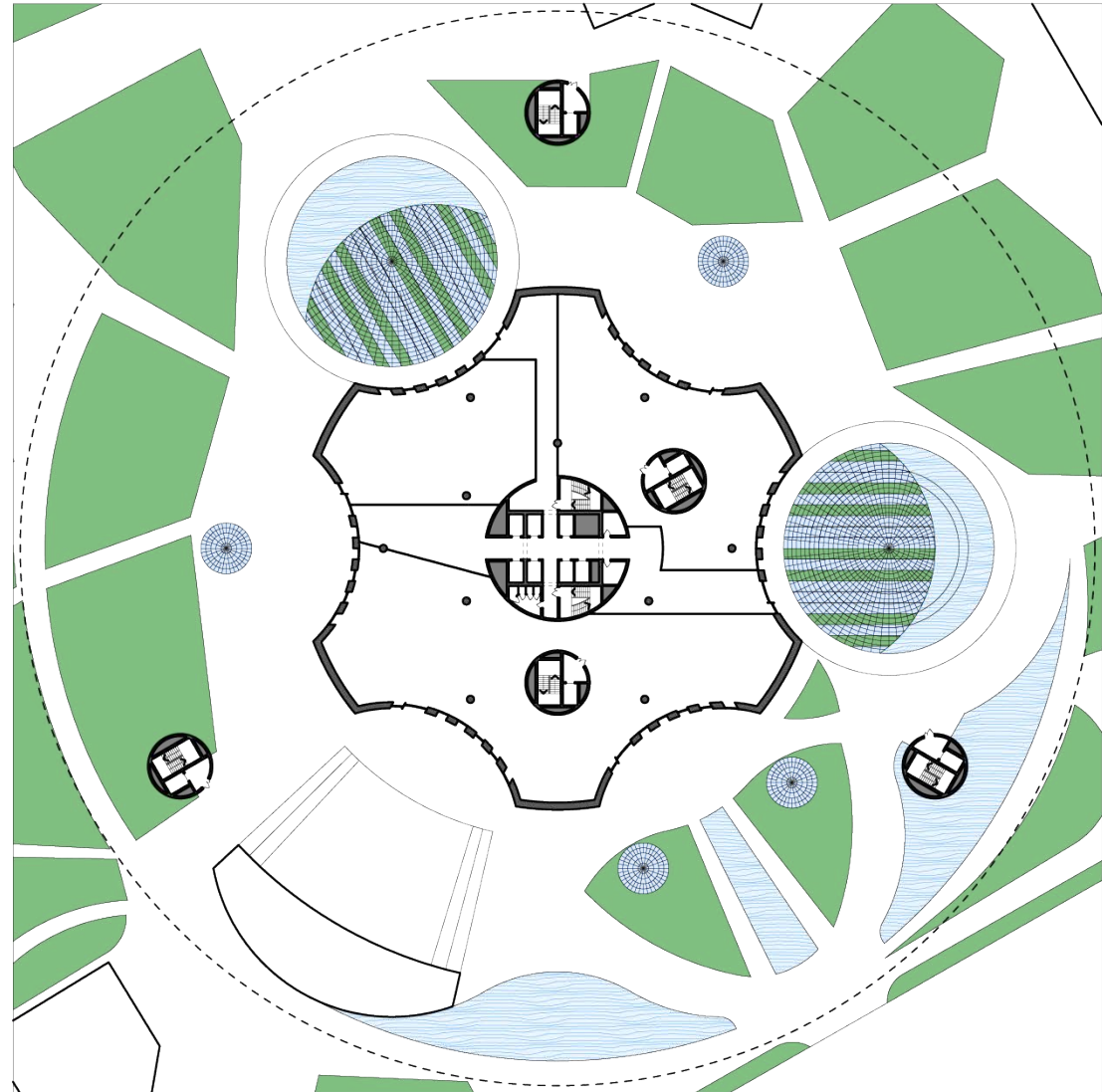
A prototype edifice, the Vertical Oasis Building, is an expression of optimism. Given its distinctive, striking curved geometry the building aesthetics complies with the ECO-DNA of the structure. The building is responsive and a biotechnological creature.

An environmentally progressive building thought to be located in densely populated towns, takes the form of a multifunctional building, including retail, office, hotel and residential space.



Features of VOS™

- + *create a self regulating thermal building skin, air conditioning and purification*
- + *integrated with building systems and city, intensive water retention if needed*
- + *benefit from climate specific plants designed for harsh conditions*
- + *use the natural tactile and aesthetic quality of plants, as well as characteristics of carefully selected microorganisms*
- + *reduce the harmful impact of city noise pollution*
- + *enhancing thermal operation of buildings*
- + *enhancing bio-diversity*



Ground Floor Plan | Proposal of multi-functional building, Gulf region, 2019

Mobile application

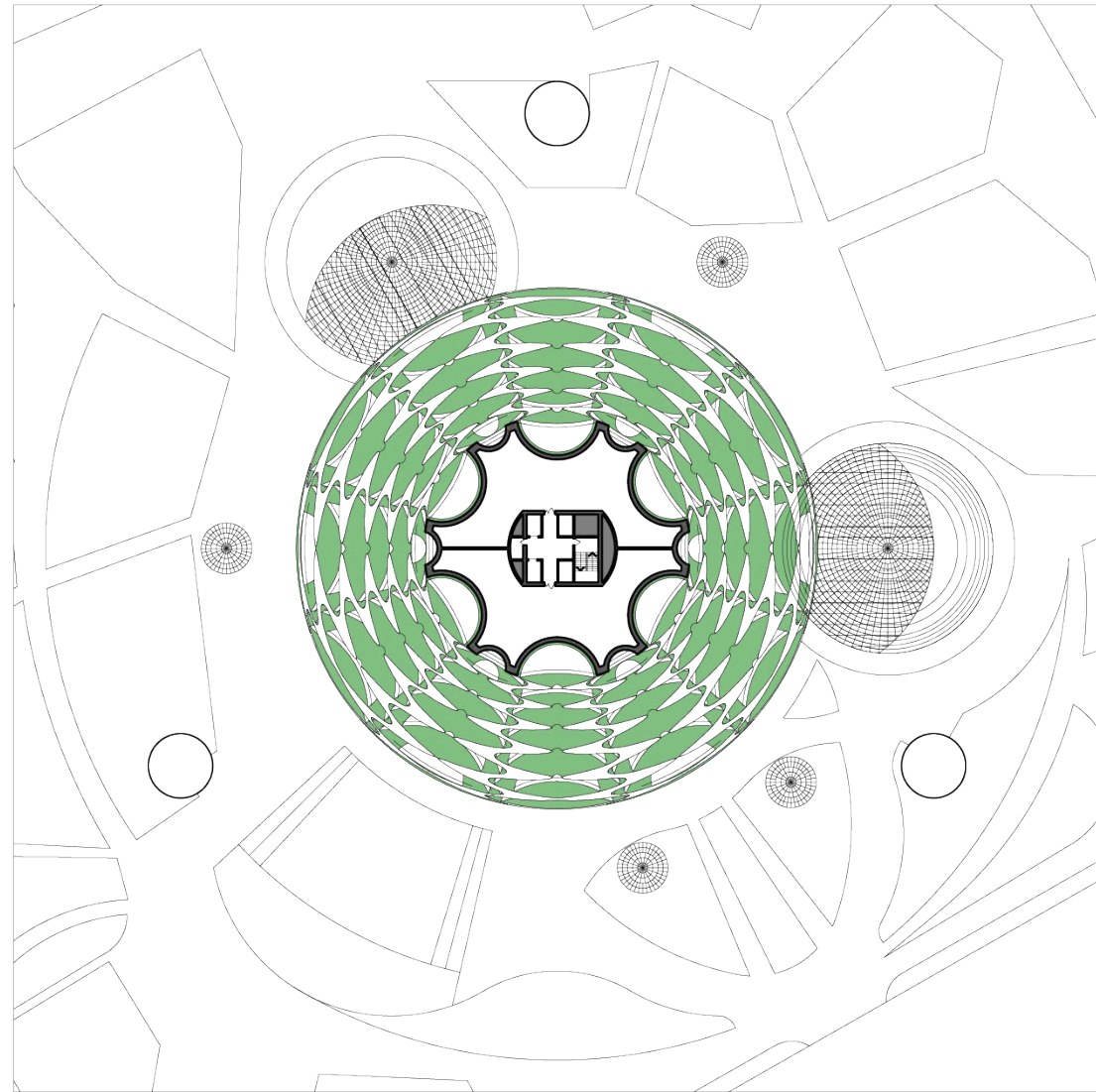
The green skin is meant to be paired with a mobile application that provides the status of the system and each plant in the matrix. An infrastructure connects the sensors allowing them to be optimized for new environments. The end user will be able to monitor the system in the real time and see, among many others, how much O_2 was produced. The system, supported by AI and machine learning will have capabilities to improve itself. The inhabitant of the building will be able to modify the aesthetics of the solution in the given matrix as the system will re-invent itself.



Proposal of multi-functional building, Gulf region, 2019

ECO-DNA

Natural process of transpiration helps to humidify and cool the air. The structure of chosen plants helps to reduce the noise pollution due to the absorption and deflection of the noise as well as sound wave refraction. The „green skin“ is the vital element of the storm water management, within the site as well as the close vicinity of the building. Depending on the location of the site it might exclude the necessity to connect the building to the local rain water networks. The „green skin“ is meant to be a house for different life forms. As an amplifier of the bio-diversity it helps to preserve species threatened by extinction.



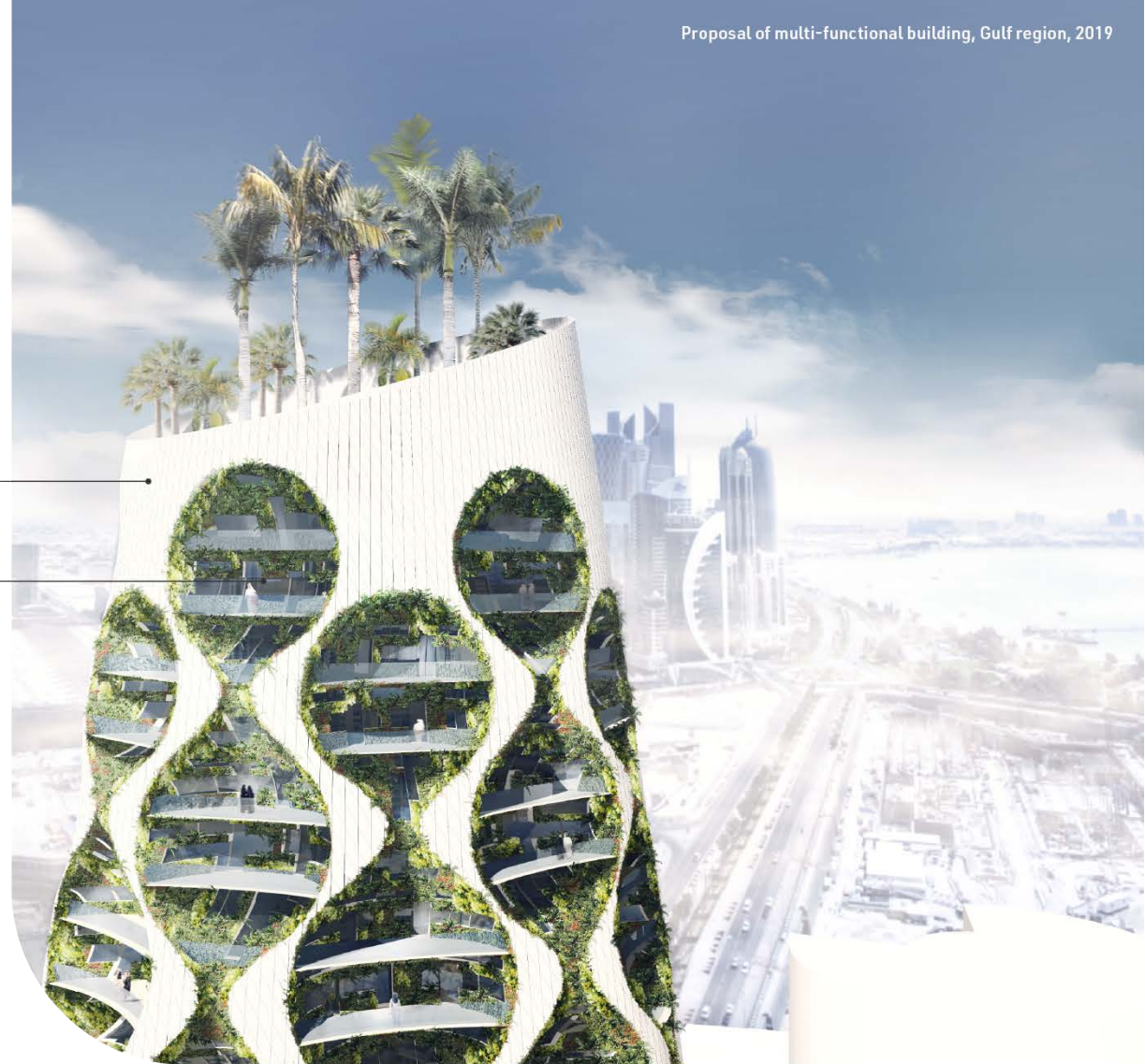
Level +184m | Proposal of multi-functional building, Gulf region, 2019

Components

Each of the components, creating the external skin of the building play an important role.

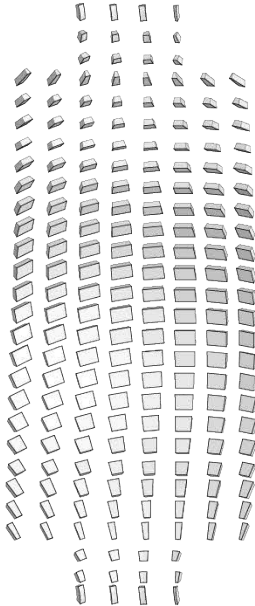
The white opaque parts of the facade are made of BIPV active panels while the glazing is utilizing CLEARVIEW POWER technology.

Both responsible for production of electricity, harvested from the sun.



Modular Panels

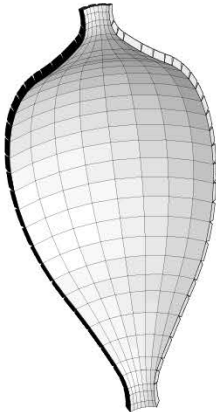
The Vertical Oasis Systems™



*modular elements
form structure*



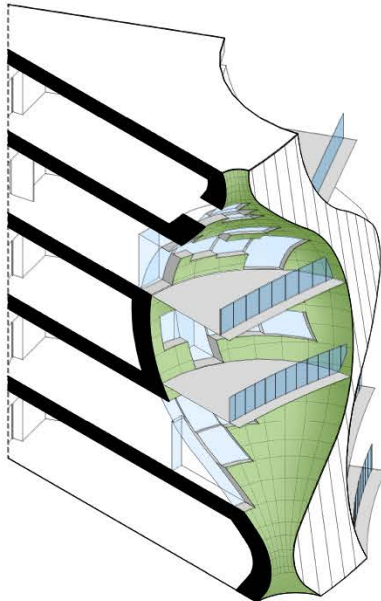
*possible to apply in
many ways to
individual needs or
aesthetics*



*giving
individual spaces*



*integrated within
the building and
3-dimensional*

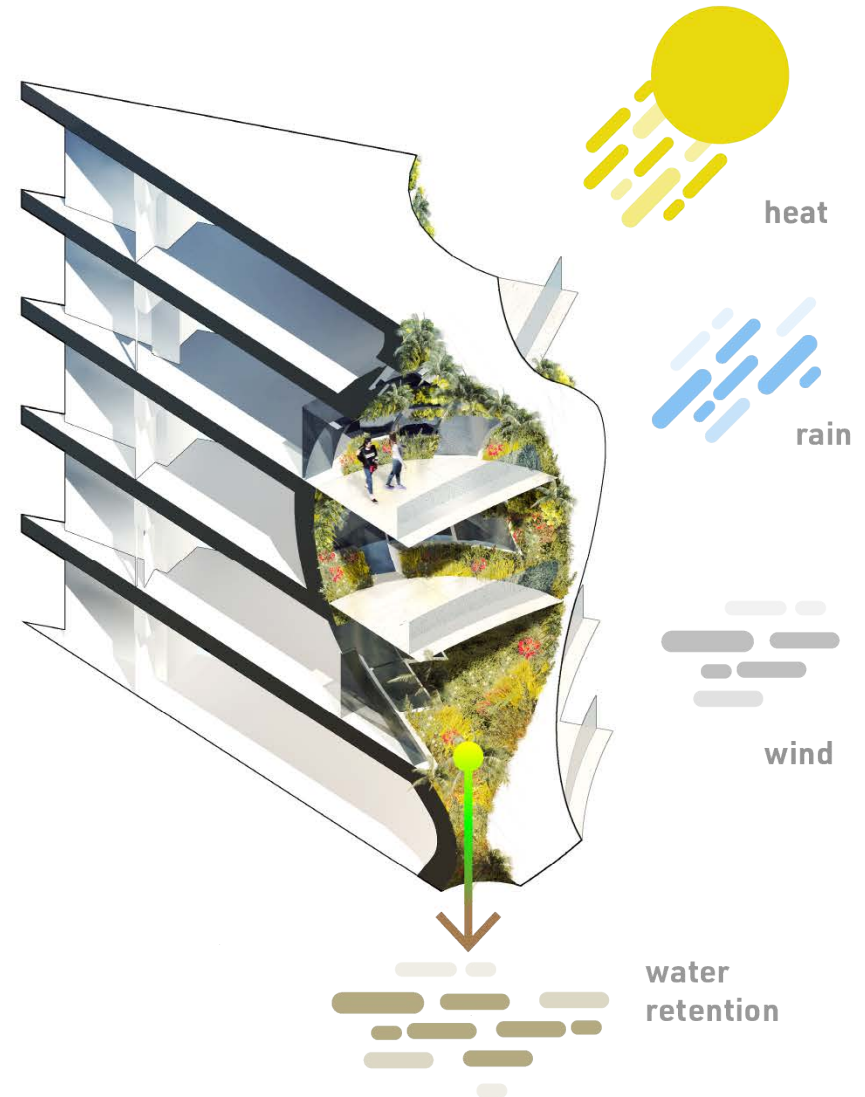


Prototype skin

Prototype skin of the building is thought to withstand harsh weather conditions. The matrix of plants and microorganisms is individually specified depending on the location and its challenges.

The skin reduces the demand of the building for cold up to 66% (calculated of the Arabian Gulf region), and heat by 30% (calculated for Sweden).

The structure will depend on the local conditions regarding availability and evaluation of the local strategies regarding carbon footprint.

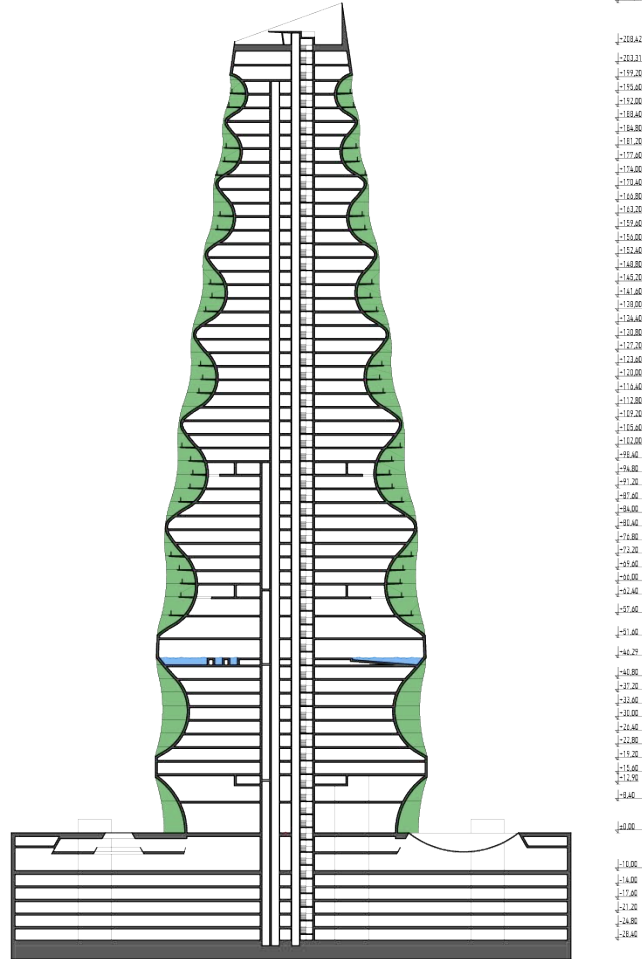


Scaling Model

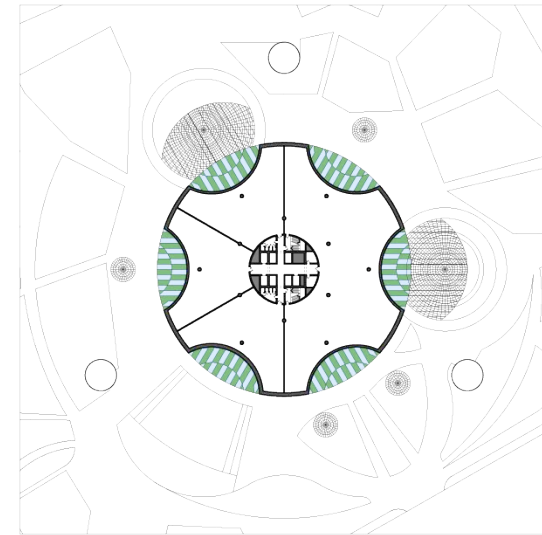
The vertical garden, located within designed niches, is composed with the multifunctional VOS™ modular panels.

The technology, developed by the means of research and development process is the one to be responsible for changing the environment in the vicinity of the building.

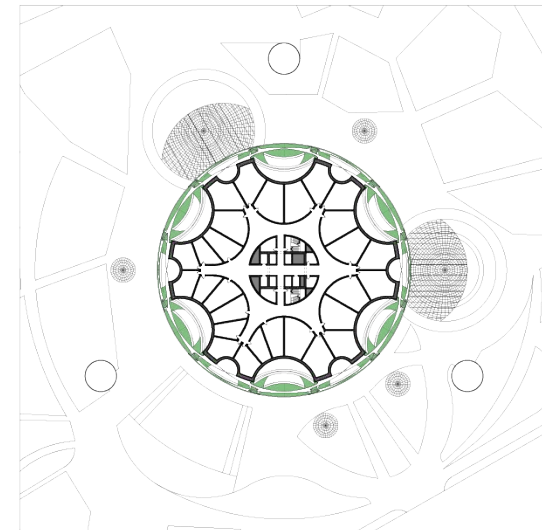
The combination of carefully selected plants and microorganisms, supported with building systems and closed-circulation strategies, purifies the air from CO₂, NO_x, PM pollutions.



Section | Proposal of multi-functional building, Gulf region, 2019



Level +30m



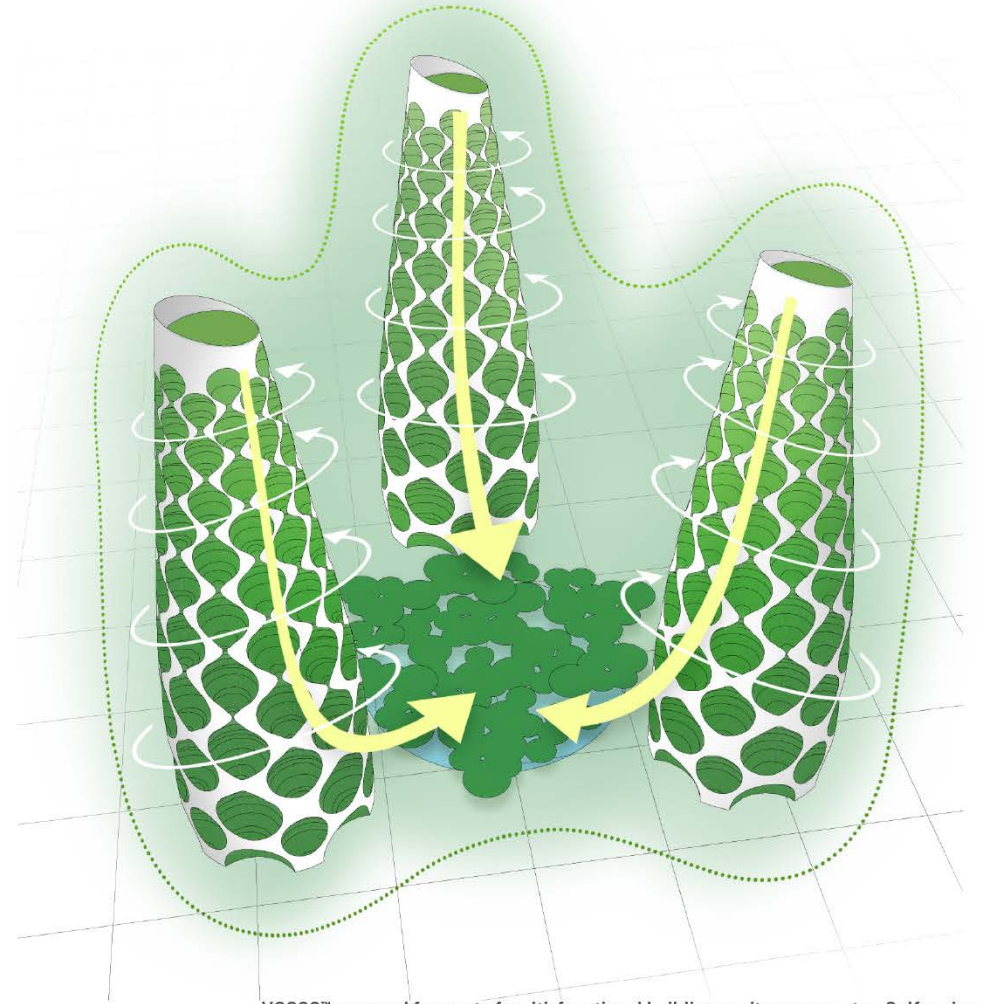
Level +84m

Urban Eco Systems

Globally the building has the ability to create urban eco systems by changing the environment in its vicinity.

With the multiplication and scaling impact factor, it can create zones within towns that are able to improve the environment.

Ultimately, it can establish a new type of the urbanity, where technology and bio-technology will help to over perform the impact of the natural needs of people to have habitat as they need and wish to have.



VOSCC™ proposal for a set of multi-functional buildings - city regenerator, Gulf region, 2019

Individual aesthetics

Simultaneously the VOS™ Building gives power to its inhabitants. It gives them the tools to be able to control, manage and enhance their changing climate.

Combining both the technological and the aesthetic aspect of sustainable living, the VOS™ Building inhabitant can modify the green skin in the given matrix as the system will re-invent itself.

Individual spaces are carved out within the building giving, an integrated 3-dimensional entity.



Proposal of multi-functional building, Gulf region, 2019

Data

Vertical Oasis Building

Function: Retail, office, hotel, residential, parking structure.

Surface, total (NRA): 123 170 sqm

Retail: 37 744 sqm

Office: 23 792 sqm

Leisure area/spa/water park: 5 668 sqm

Gastronomy: 5 583 sqm

Hotel: 19 758 sqm

Residential: 30 642 sqm

Roofpark Oasis: 712 sqm

Total height of the building: 220 m

Total no. of above ground levels: 53

Total no. of below ground levels: 4

Total area: 181 975 sqm

Materials:

glazing: CLEARVIEW POWER by Ubiquitous Energy/NSG, USA/JPN.

opaque panels: BIPV active façade by Solaxess, CH.

green skin: CC panels by VOS WCC, PL.

Contributors:

Architecture and Design: FAAB (faab.pl)

Systems: Profen Sp. z o.o. (profen.pl)

Eco-solutions: FAAB and VOS WCC (verticaloasissystems.com)

*all images, drawings and diagrams courtesy of FAAB

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