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Korea
-The skyship-



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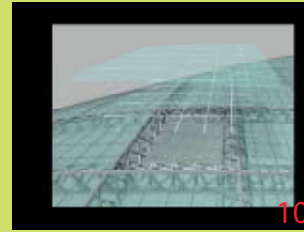
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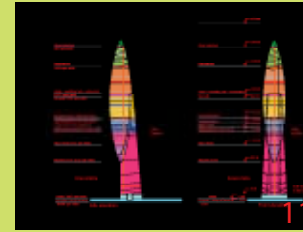
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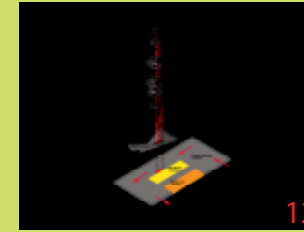
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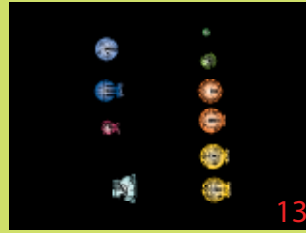
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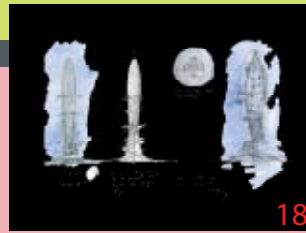
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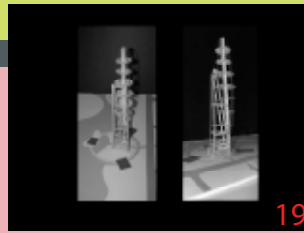
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Development Project

Building: 102800 sqm
Site: 40000 sqm
Budget: 300 mio USD

The main building is a 102,800 sqm building with a total area of 40,000 sqm. The building is located in the center of the site and is surrounded by a green landscape. The building is designed to be a modern and sustainable structure. The building is designed to be a modern and sustainable structure. The building is designed to be a modern and sustainable structure.

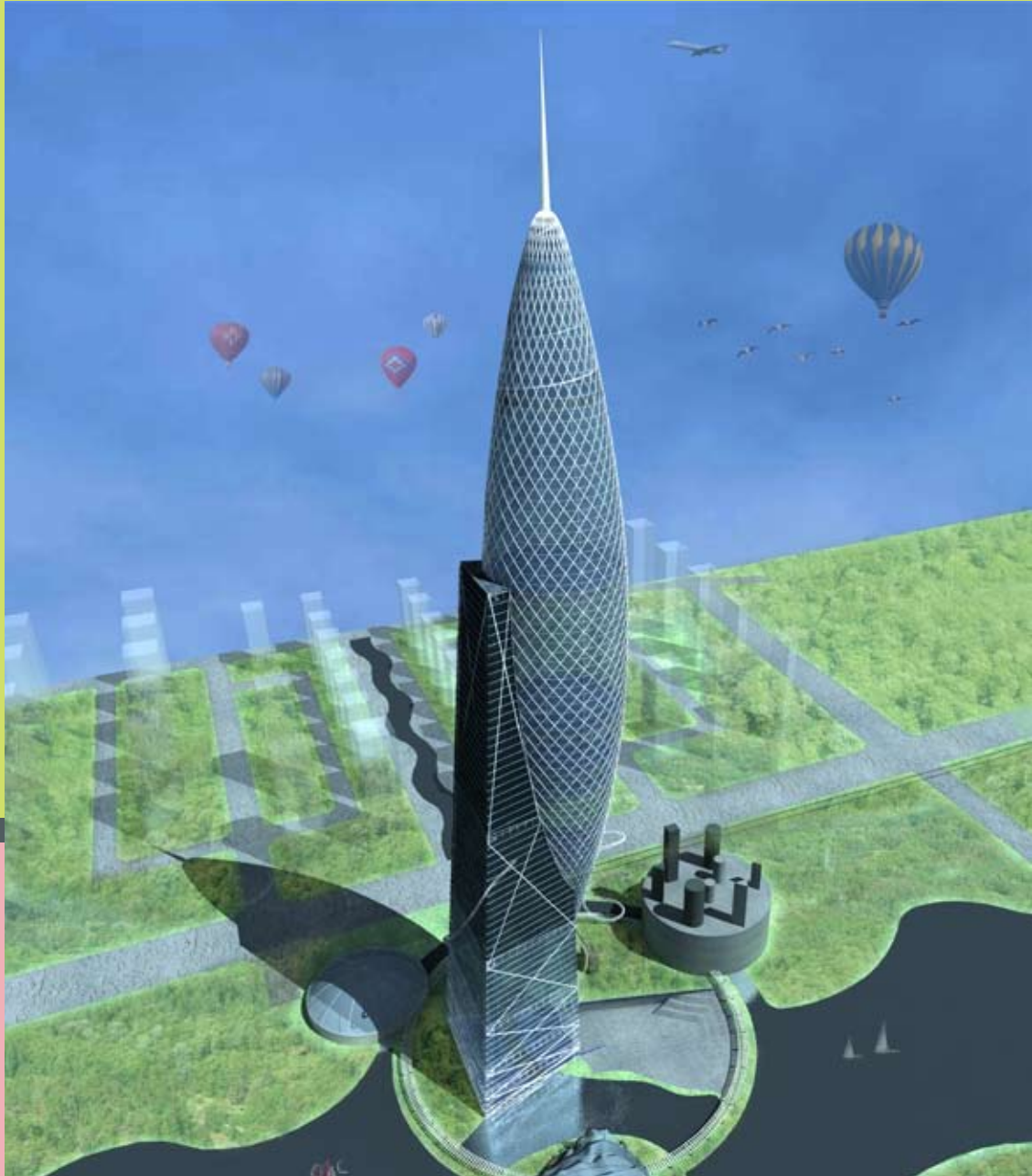
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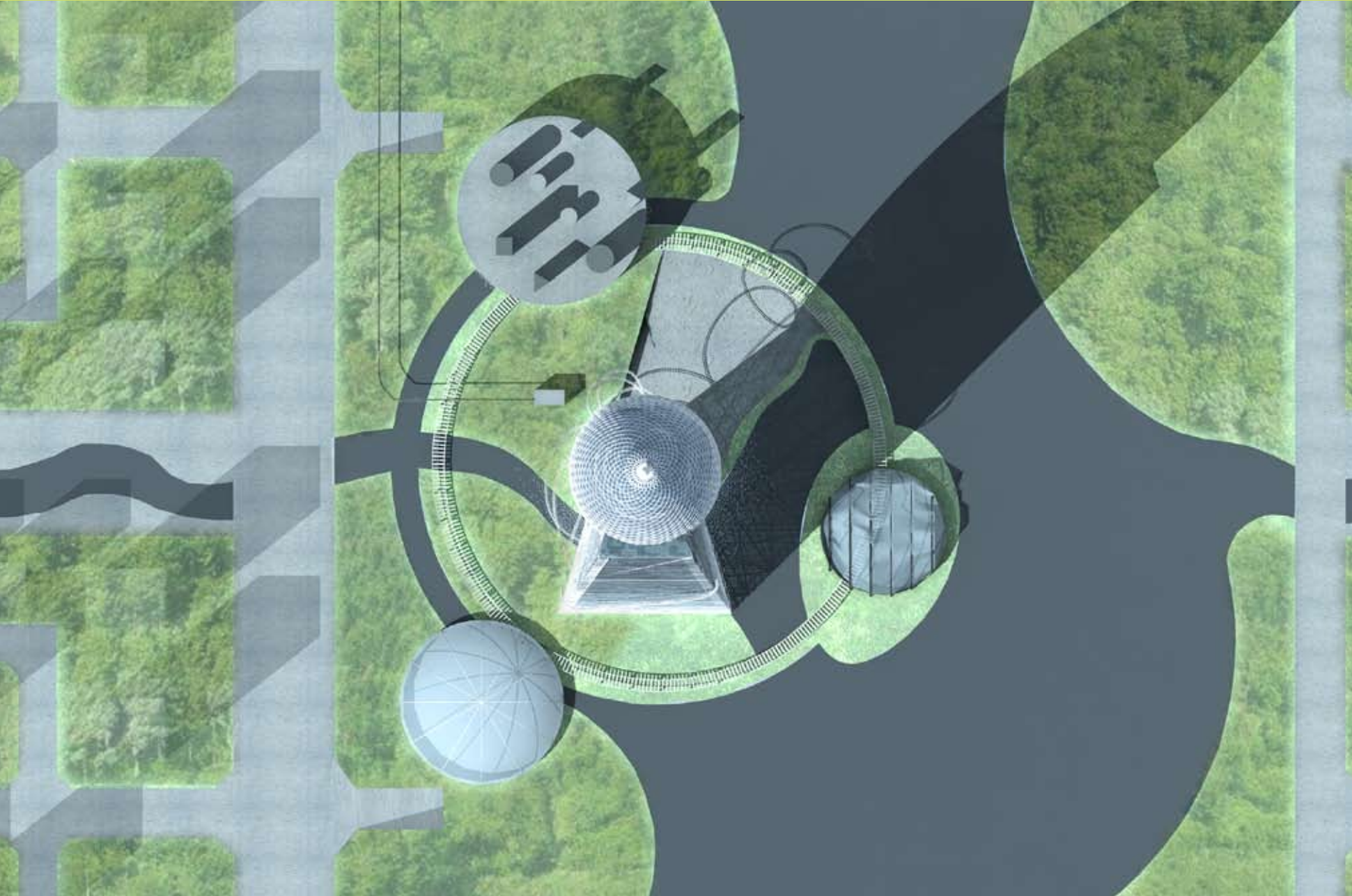
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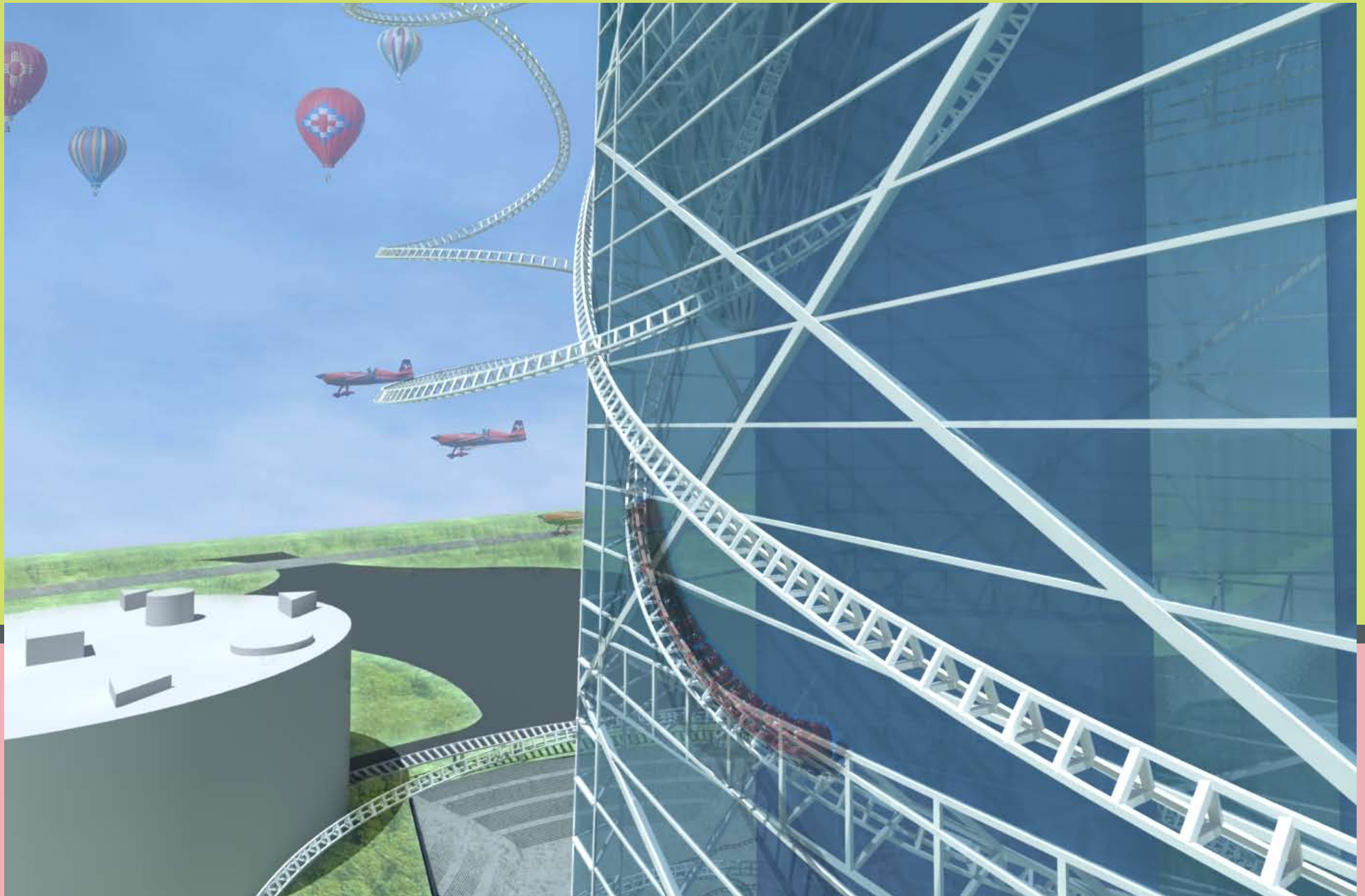
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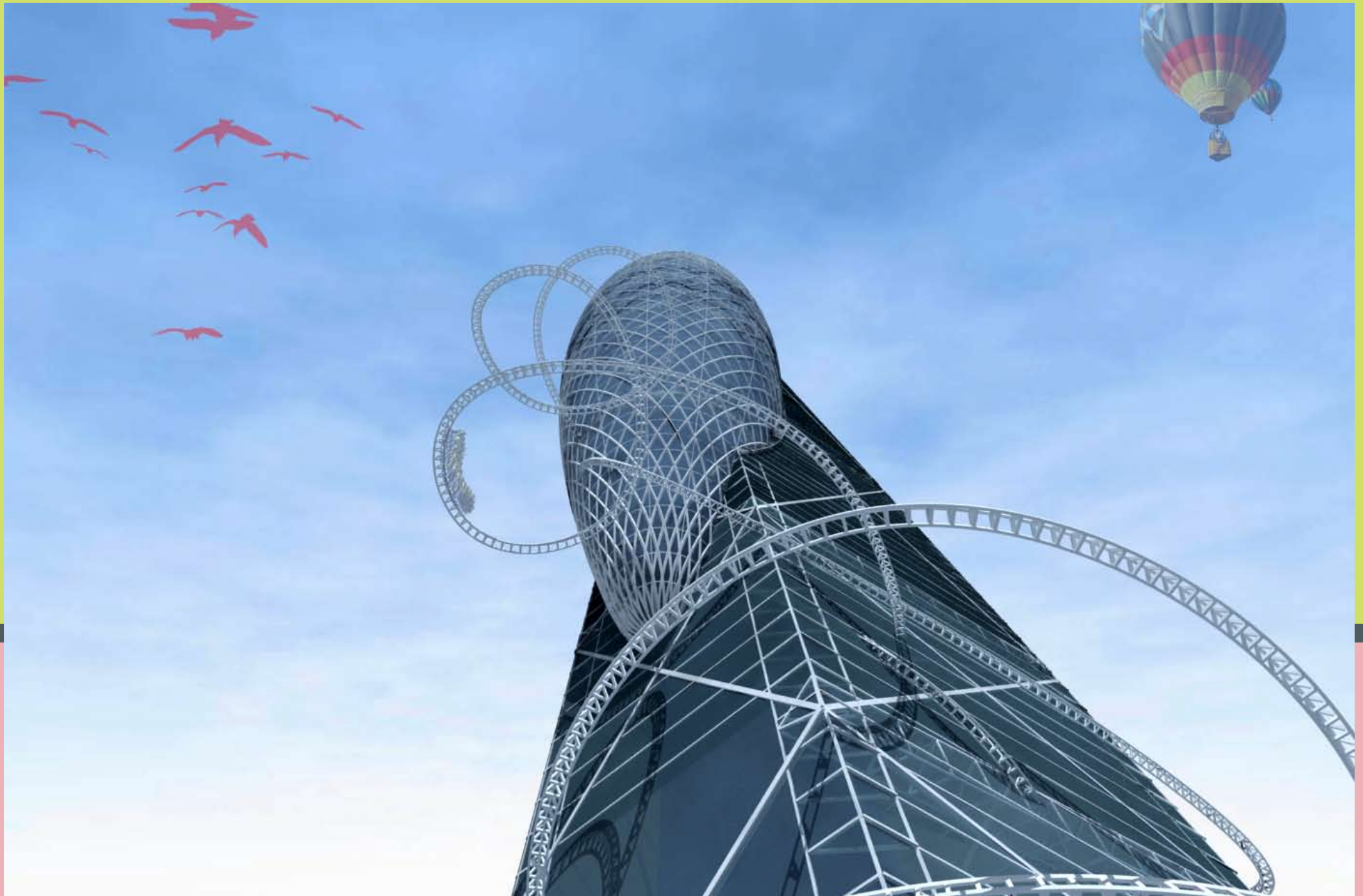
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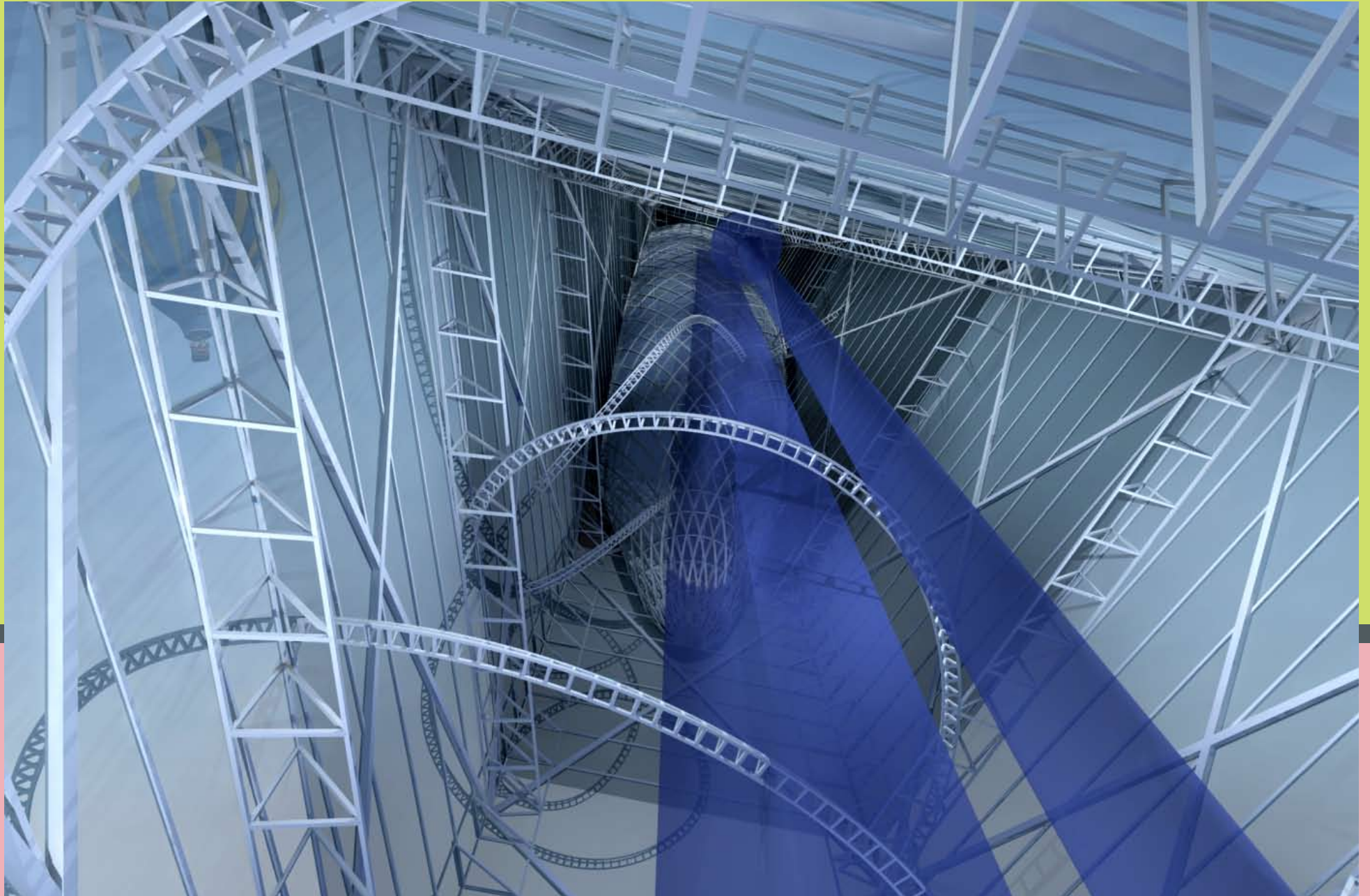
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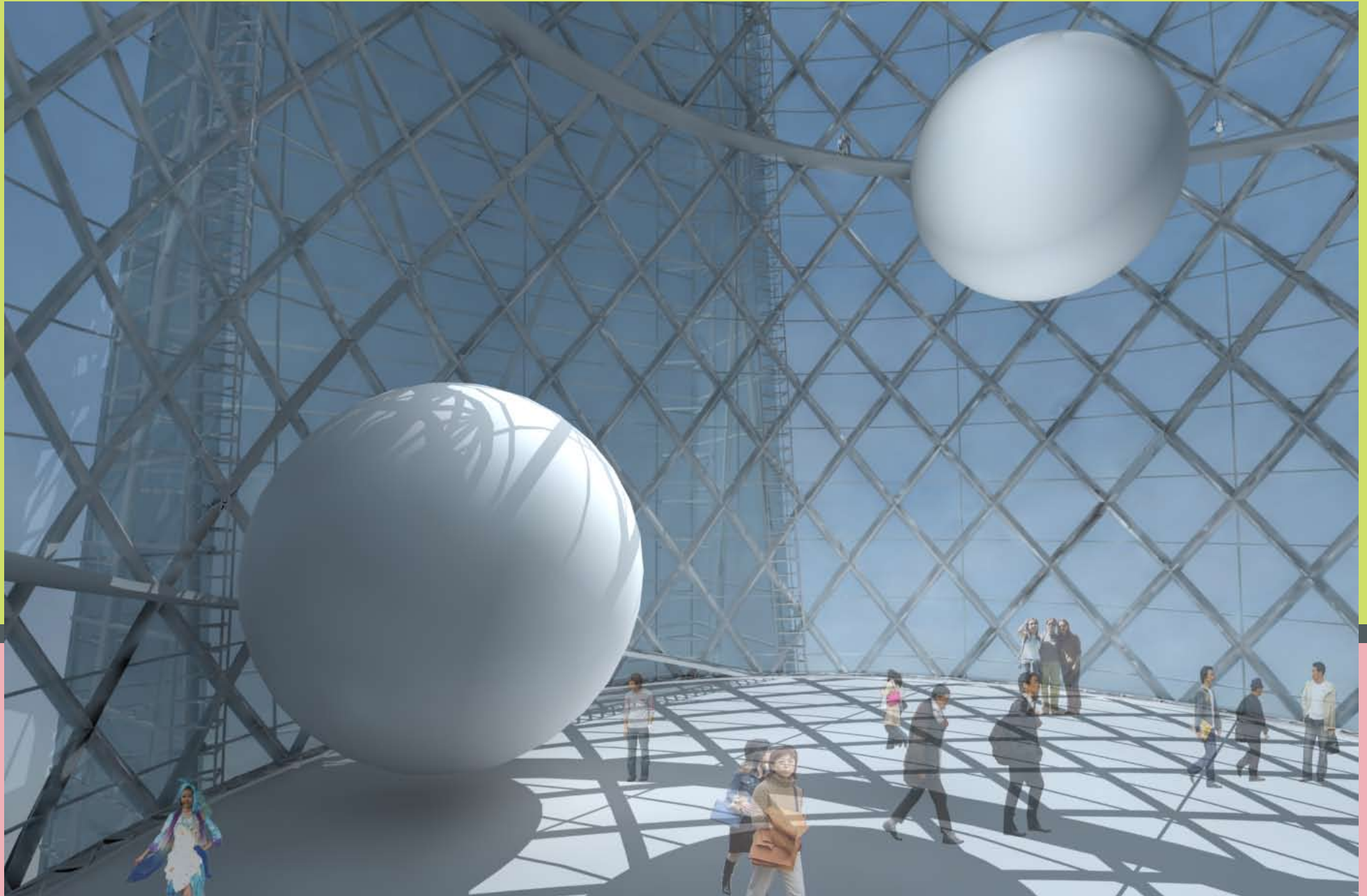


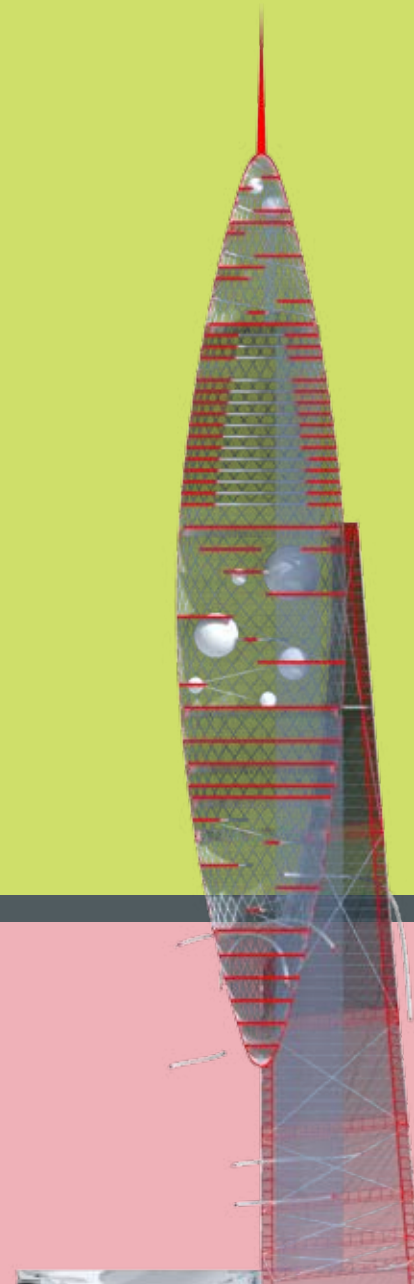


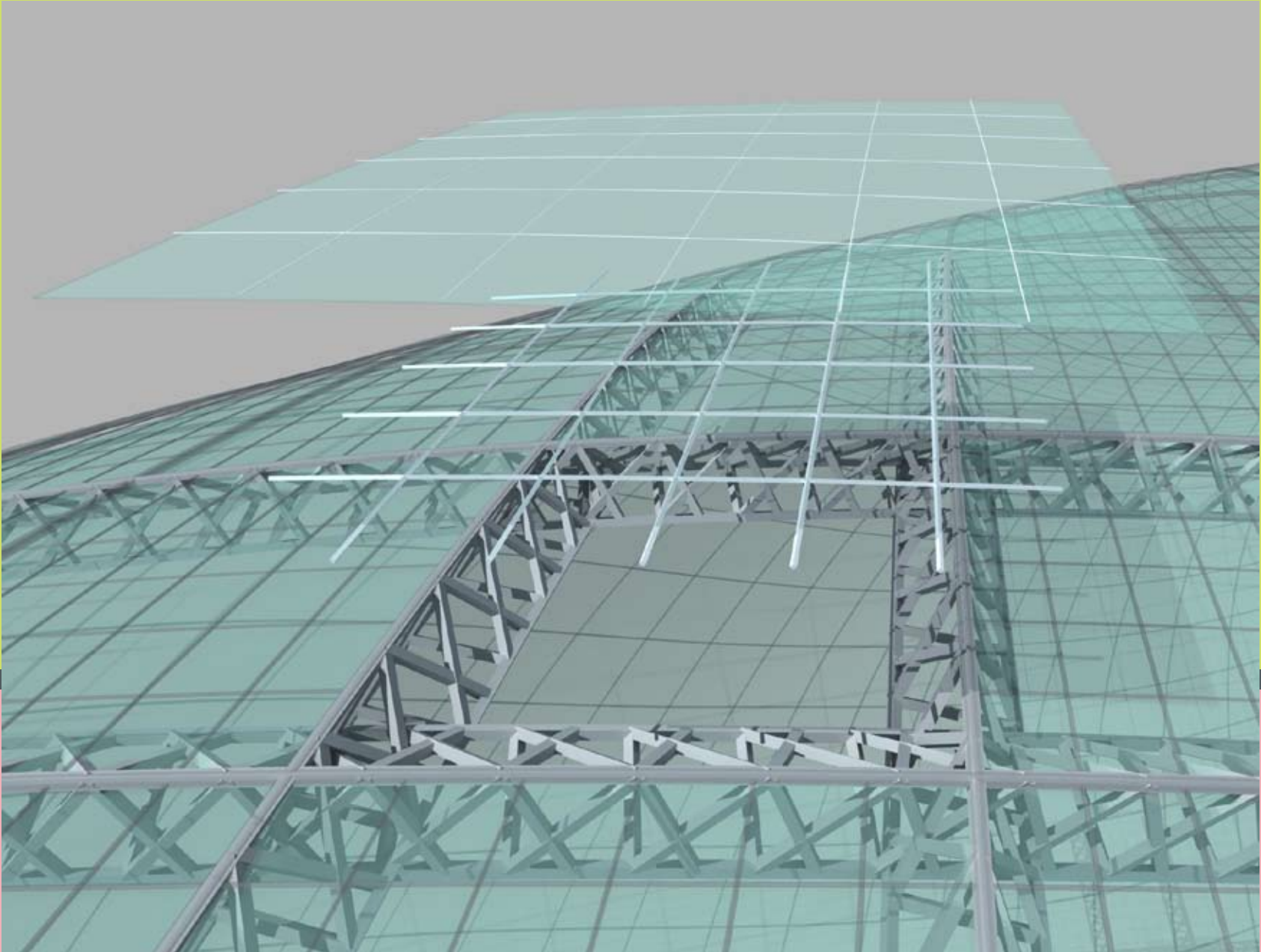












Observatorium
425 sqm netto

Planetarium
1400 sqm netto

Hotel + wedding hall + restaurant
25357 sqm netto
Sky walk 2702 sqm netto

No gravity zone 7680 sqm netto
Administration 2327 sqm netto
Office hotel 6170 sqm netto
Multi purpose halls 4102 sqm netto

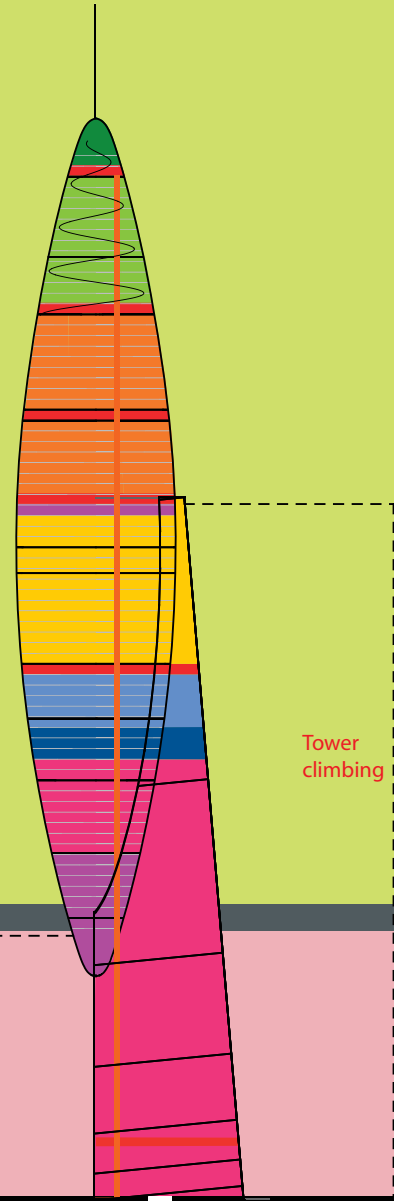
Kid's world 3115 sqm netto

Machine room 3523 sqm netto

Bungee jumping

Lobby 3645 sqm netto
Car park + Drop off Area
45000 sqm netto

Side elevation



450 mt

Observatorium
390 mt

Planetarium
338 mt

Hotel + wedding hall + restaurant
266 mt
Sky walk
262 mt

No gravity zone
202 mt
Administration
198 mt
Office hotel
198 mt
Multi purpose halls
170 mt

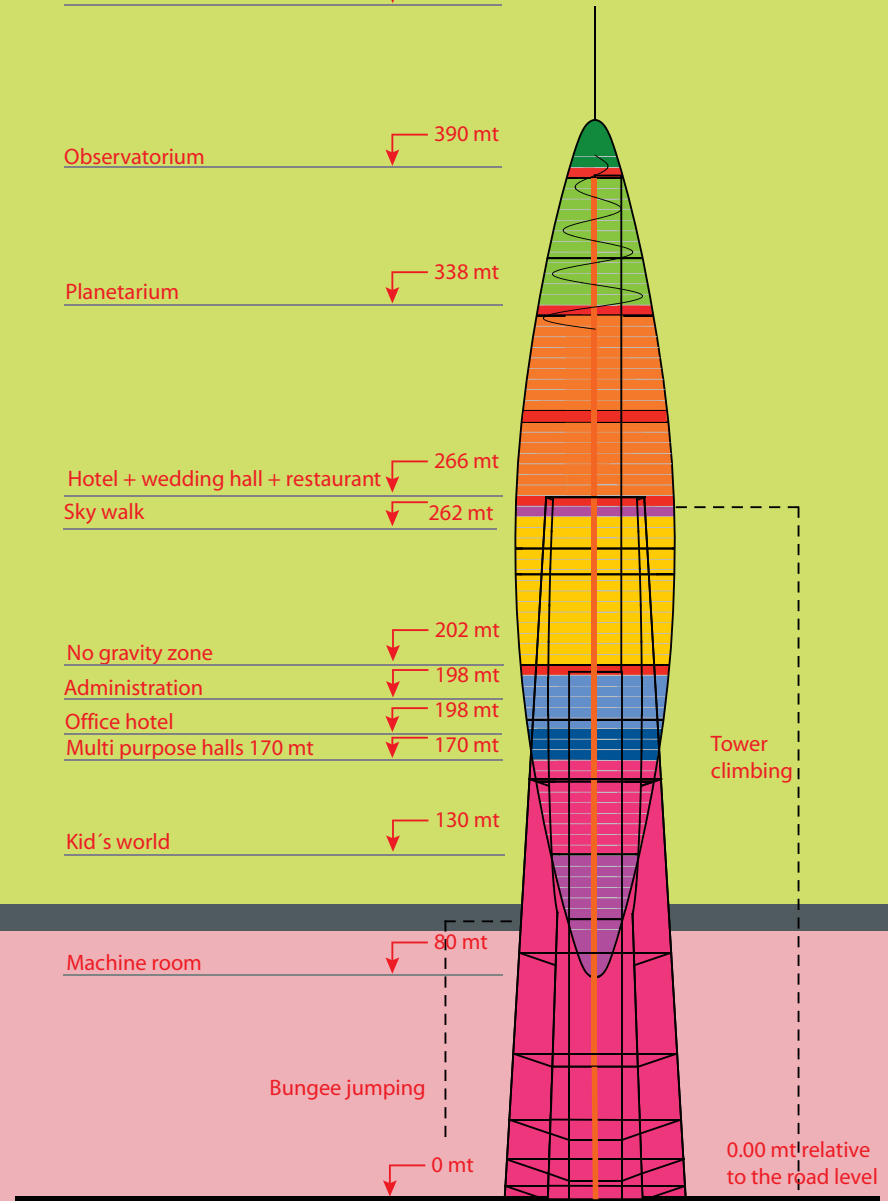
Kid's world
130 mt

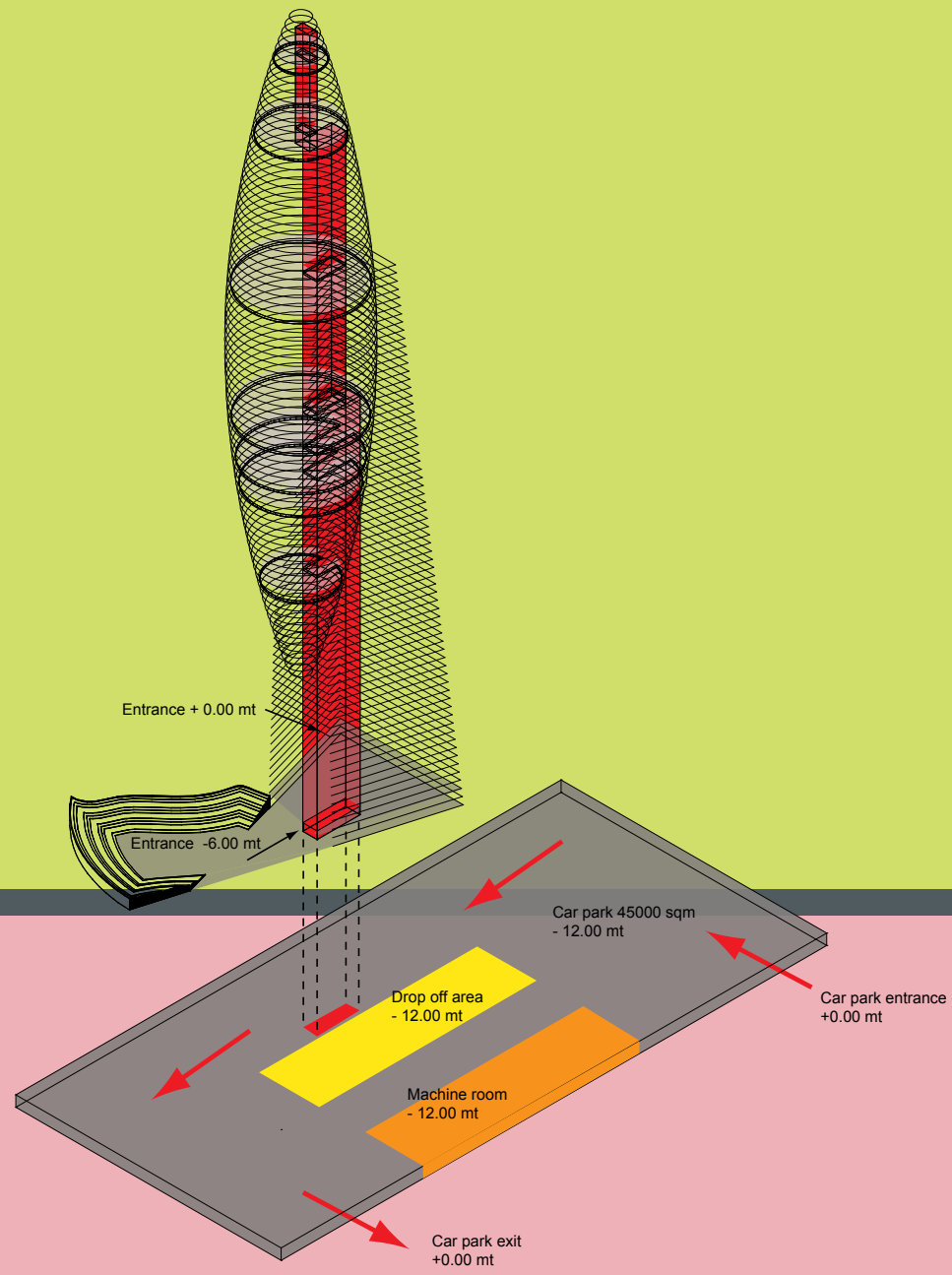
Machine room
80 mt

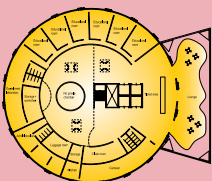
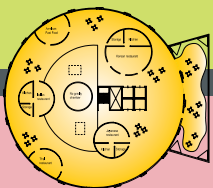
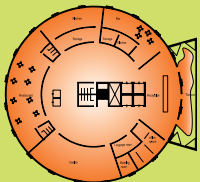
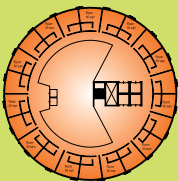
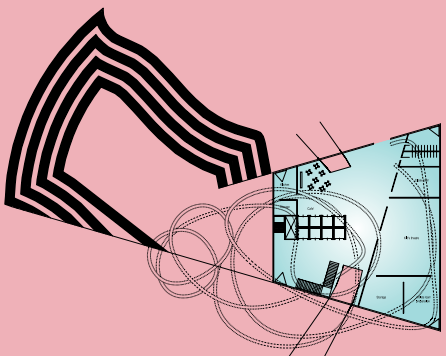
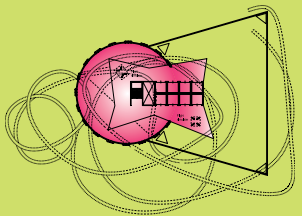
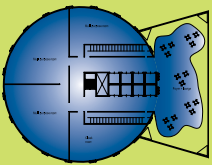
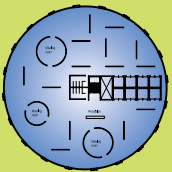
Bungee jumping

Lobby -6 mt
Car park + drop off area -12 mt
-12 mt

Front elevation









the clouds

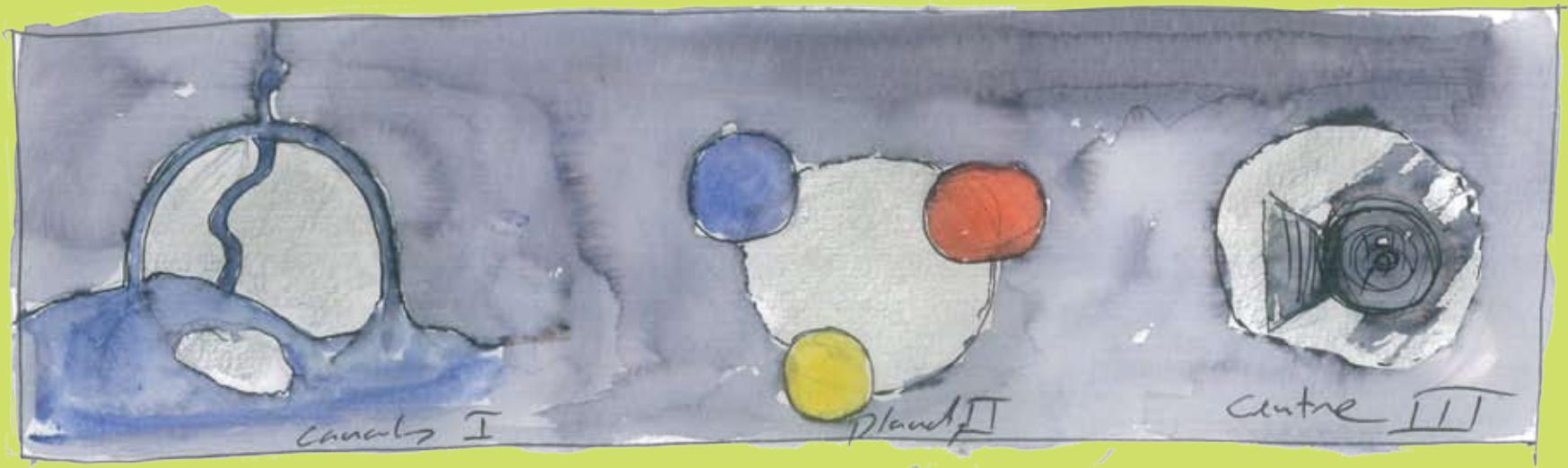
the clock / hills were



The open void of the plantroom and the expanse of the sky ship.

The great period of the Atmosphere tower and the skyscraper.





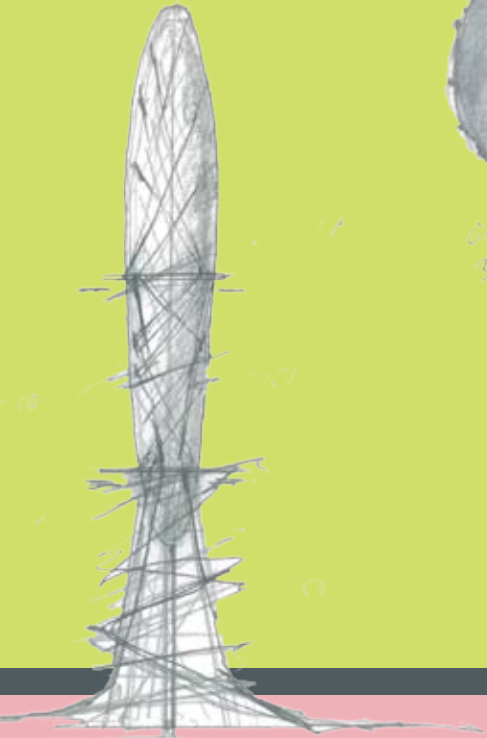
Canals I

Plane II

Centre III



the tower is a pencil
drawing



cross plan / top
view

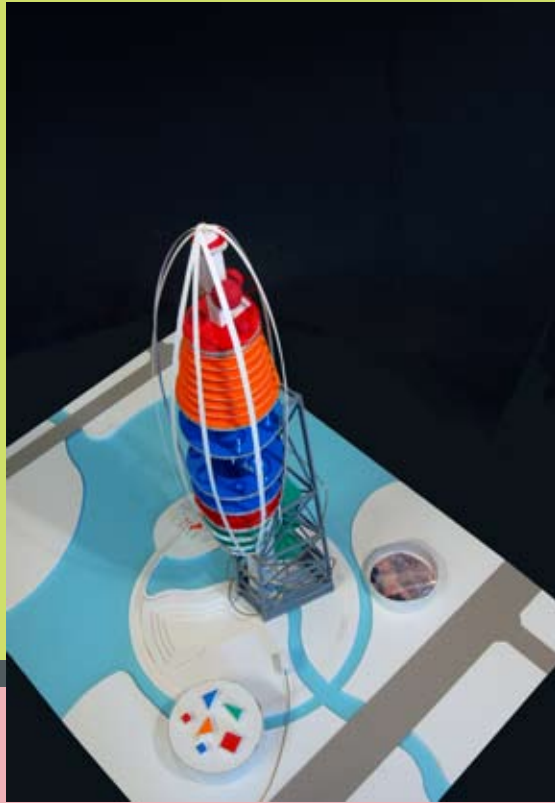


1. sketch
of the tower

the tower is a pencil
drawing of the paper
because the paper
is

the tower is a pencil
drawing of the paper
because the paper
is





The SkyTower

The juxtaposition of the AtmosphereTower and the SkyShip

The Idea: The SkyTower consists of two elements, a lower part, which is designed as an inclining triangle, and an upper part, which is designed, as an elliptical cocoon.

The upper part is named the SkyShip and the lower part the AtmosphereTower. When the two parts are mentioned together they are named the SkyTower.

Seen as skyline the new SkyTower creates an asymmetrical silhouette with the curved lines of the SkyShip and the Atmosphere Tower as a triangular figure. This creates a dynamic figure, which is seen more as a sculpture, than as a conventional tower.

The reason why the sculpture has been considered a priority, is to underline the request in the program of making a new significant landmark of Seoul, Korea, and in that sense, parameters of significance are: height, shape and programmatic ideas. The building is the combination of knowledge and leisure, and The SkyTower will as such become the first vertical edutainment tower in the world.

This combined with a significant outline of the building creates the hallmark and the vision of the SkyTower.

Seen from a distance the view towards the park will be the SkyTower with its two connecting elements as landmark, and the three lower buildings: The WaterWorld, Europe and WorldMall as a base, -each programmed with its own significant roofprofile: The Water-drop dome on the WaterWorld, The contours of the Alps on Europe, and each themed city of the WorldMall created by the skylights.

Important is also the fifth facade of the park seen from the SkyTower. And here the three significant circular buildings surrounding the SkyTower each has a roofshape, which underline the function. Again: The Waterdrop of the Water-World, the Alp topography of Europe and the city skylines of the WorldMall. Seen from above the composition of the canals, the three circles and the amphi-stair are visible, and the following elements make the composition:

- 1: The landscape with the circular canal and the organic shaped canal in the centre.
- 2: The three functional elements like planets in orbit around the SkyTower.
- 3: The SkyTower as the main centre, from which the whole composition has its

source.

All together the composition is like an Astrolabe or an armillary sphere where all elements in the composition are connected to each other and have a compositional relationship.

The idea of a connection between elements continues up in the SkyTower where the Atmosphere Tower and the SkyShip each has its own compositional starting point.

The Atmosphere tower emerges from the ground and is like the earth stretching towards the sky. In the Atmosphere Tower, the horizontal girder placed rhythmically along the façade defines the main structure. This is inspired by the rhythm of the Fibonacci heap. The Fibonacci heap follows the system of 1 + 2 + 3 + 5 + 8 + 13 + 21 and etc. Our structure does not directly follow this heap but is transformed, and only the rhythm remains: 5 metres + 10 metres + 15 metres + 25 metres + 40 metres + 65 metres + 105 metres. This simulates visually the expressive travel up through the atmosphere and by this connecting the figure to the SkyShip

The SkyShip is a precise defined elliptical shaped figure inspired by the airships of the sky. Instead of docking horizontally like airships this SkyShip docks like a spacecraft: vertical.

And the volume is divided into a series of maindecks each themed accordingly to the specific function.

Because of the variety of function this new SkyTower and the park will be a destination where it is possible to spend the whole day in just one of these facilities. This gives the possibility of creating a functional unit, which like community buildings gives identity to a whole new area.

Seen as identity the offer of functions should range from the commercial to the educational activities to make it possible for the whole family to join in and spend a day in the new SkyTower Park.

The profile of activities is an important part of creating a living organism as a part of the region.

Therefore this proposal chooses to incorporate a Hotel, Office Hotel and conference facilities into the SkyTower. Each function is highly themed, so the offices will be experienced, as being in a spacecraft and the hotel will be themed like a Space shuttle on the way out into the universe.

Of course the view over the region and the themes together give these functions their unique appearance and together with the exhibition and leisure

functions there will be activities throughout all 24 hours in the SkyTower

A guided tour through the new SkyTower and its facilities.

The Worldmall

The shopping around the WorldMall is like a travel to all the great cities of the world.

The organization of the mall is like that of a bazaar with pathways, which are interconnected by squares. The biggest and central is themed as "Night time Seoul" and from here, there is access to the other squares which are themed as Milan, Paris, New York and London by night.

Each of the squares has a skylight, which is shaped like the significant skyline of the themed city.

The area of the mall is 30.000 sqm.

The Europe travel

The themed area inspired by Europe is both a Food court with Italian, French and Nordic café, but also shop and themed, small rides like dark rides with for example: the Brother Grimms FairyTales, or Dickens tales from London.

The roof structure is like a stylised topography of the Alps with lakes and fjords as water elements in between. The skyline of the Europe travels zigzag like mountain peaks.

The area of the Europe 8.000 sqm.

The WaterWorld

The WaterWorld is made like a blue planet of all oceans of the worlds. Along the pools there are cliffs, slopes, caves, Roma thermal bath, Turkish bath and the classical Korean facility of the bathhouses. As the main feature a large domed glass roof is constructed like a water drop and it is proposed to incorporate a saltwater aquarium into the facility.

the area of the Waterworld is 8000 sqm.

The Lobby

This is the introduction to the SkyTower, here is the information, tickets and souvenirshops situated.

The lobby has to main level - 10.5 metres which gives access from the basement parking and the underground facility and from level 0 (relative, the same

as road and surrounding) . In the lobby there is a view up through the different levels of the Atmosphere Tower. The different zones of the tower is named after the layers in atmosphere starting with the lowest: troposphere, the stratosphere and then higher comes the thermosphere and exosphere. This idea is underlined in the design of the decks, which are formed like clouds. In specific the cumulus clouds, with its rounded shapes, or the cirrus clouds with its lines.

The kids area

The Atmosphere Tower is primarily the KidsWorld and here the decks are formed like clouds containing different themed activities for both leisure and educational use. There are workshop areas for computer and search of knowledge, which is designed like a satellites. There are classrooms, which can be use both as thematic educational but also as studio space and conventional classes.

Planned is also a large play area designed like the inside of a cloud where the tactile surfaces is used to create awareness of the senses. A gym/fitness place where each of the machines are telling a story of gravity, speed and the biological processes.

The Service deck

Welcome to the SkyShip, this is the main information deck and here all the staff and administrative facilities for the running of the SkyTower is situated. Here will be large screens, which should tell the different activities of the SkyTower and the theme on this deck: Welcome on board.

The None-gravity zone.

Here in this space the main structure of the sky ship is seen, and into this there are balconies and stairs in steel from which there is access to simulators where guests can fly both a spacecraft and an aircraft. There is access to educational interactive zones telling about the impact of gravity both here and on the moon. -And the importance for our daily life. The main feature is a 50 meter vertical wind tube, where the guest can try a simulated no gravity zone.

The Planetarium

The upper part of the SkyShip is like a travel into the stars. The space is like an open void, where the construction and installations are visible. The layout is a series of balconies and decks, and the central element is the sphere, which contains the Planetarium and the Omnimax cinema.

It is possible to walk along the wall of the façade of the SkyShip on a spi-

ralshaped steelstair. The visual impact of the space is like a sphere showing all the planets. From this area there is access to the upper Observatory deck.

The Food court

In nearby connection with the none gravity zone is the food court, which is themed like a travel around the world and from a series of selling points placed like satellites. They are Korean food, Italian, American, African food and Indian food. The space is open so there is a view all the way around and the guest are situated like in a cafe.

The Sky conference

The Conference area is dimensioned to 1500 persons, which can assemble in the large Multipurpose hall. This space can be divided into smaller sections and in connection with the larger spaces there are break out spaces and smaller meeting rooms.

There is a separate lobby for breaks in connection with the facilities and every space is themed to the Spacecraft motive, without losing its functionality. The trends in conferences are to have a different environment, a unique facility as selling point. The sky tower will be that unique selling point.

the area of the conference is 4000 sqm

The Officehotel of the Sky.

This facility is not seen as the classical office space but as an encounter between office space and hotel. Which means that it is an office space one can rent for a certain meeting or purpose. This will create unique seating for a business meeting where clients are on business-visit.

Area 5000 sqm

The SkyHotel

This is a highly themed high-end-hotel, with 180 rooms all with superb view, in connection with wedding hall, banquet hall, dining space and from the entrance level the guest can look up through the central void and see all the balconies, which gives access to the rooms. The main access to the Hotel is by lifts in the core, but internally there are placed two lifts which only accommodates the hotel guests. Each hotel is rectangular with walking closet and 50 net sqm space.

The area of the hotel is 24000 sqm.

Structural and technical surveys:

The structural strategy is different from the Atmosphere Tower and the SkyShip. In the Atmosphere Tower there is girders and a more conventional structure, where as the SkyShip is a series of steel beams that creates a mesh, which create both the main structure but especially also the structure for the facade. The proposed SkyTower structure consists of a central core going from top to bottom, which houses the lifts and service facilities.

The upper tubular shape will however create a significant amount of torsion to structure it self since the centre of rigidity of the tower structure is located eccentric from the upper part. A group of three steel core walls as girders will take care of the torsion, as they will be interconnected by trusses.

These trusses will in fact also act as transfer structure for the above columns and outriggers for the lateral loads.

The benefit with these transfers is that when they are built, they will ensure continuous construction of the above structure without any temporary structures.

The façade of the Atmosphere Tower is primarily structured into a series of vertical beams which has secondary horizontal beams. This motif is also used in the structure of the facade. So as a contrast to the curved lines of the SkyShip the Atmosphere Tower with its simple rectangular shaped facade is made with conventional alloy profiled glass creates a contrast to the structural glazing of the SkyShip.

The structural concept of the facade in the SkyShip is a reinforced steel cross-hatch pattern.

The facade consists of 12 diamond shaped trusses held in place by a maze of steel bracing profiles.

All connected by longitudinal girders and in both top and bottom with a more dense mesh.

This structural principle is the main element in the structure of the facade. The façade is composed of rhombus shaped glass tiles, which like facets follows the curves of the elliptical shape. The system is like structural glazing with the profiles placed on the inside of the facade.

Into the profiles system, and always in the same proportions, it is possible to experiment with the transparency and different glass types. Some could be solar cells; other with sandblasted film and other again could have different grading of tone.

Hereby would the main shape of SkyShip be kept, but it is possible to make many variations and patterns because of the tiles, the proposed proportion of the tiles is the size of 1 sqm each.

The different rides which will be situated in the building has, because they have their own dynamic forces, an impact on the structural system and are integrated as follows:

In the none-gravity zone there are flat rides and simulator booths, as star ships and airplane simulation.

Concerning type, it could be like the Boeing flight simulator which has high acceleration on the hydraulic system. In order not to give further dynamic forces to the main construction it is proposed to mount a gyro deck suspended down from the main structure and thus consuming the dynamic energy from the rides on the "floating deck".

The same concept is used in the case of flat rides, which could be Zierer or Hüss.

The turbodrop ex S&S powers is a vertical structure in steel and therefore it has no impact on the main structure.

The Roller coaster which runs down along the structure of the Atmosphere Tower could be like Intamin or B & M and the tolerance on the box beam of these rides is on 1000 meter about 5 mm and thus it is proposed to make junctions where it can deal with the transformation of dynamic forces, but still it is kept in the more rigid Atmosphere Tower structures lower part.

The installations:

The installations of the building are organized into three zones as follows: basement and technical space 2000 sqm, space in the middle 2000 sqm level 130 metre and a high technical space 2000 sqm level 260 metre over zero. The decentralised technical spaces are made so the piping and tubes does not take too much space up through the central core.

These technical spaces are also dimensioned to house the facilities demanded by the rides and edutainment installation.

The Energy/resources

The environmental issue is an integrated part of the solution of the project and heat from the machines/rides end from the conference/office facilities could also be used as heating in the Hotel. The investigation of geothermal heat/ground energy should be made, as well as the use of the newest technology concerning solar cells should be integrated into the façade structure. In all levels the project should use the latest recycling techniques and materials.