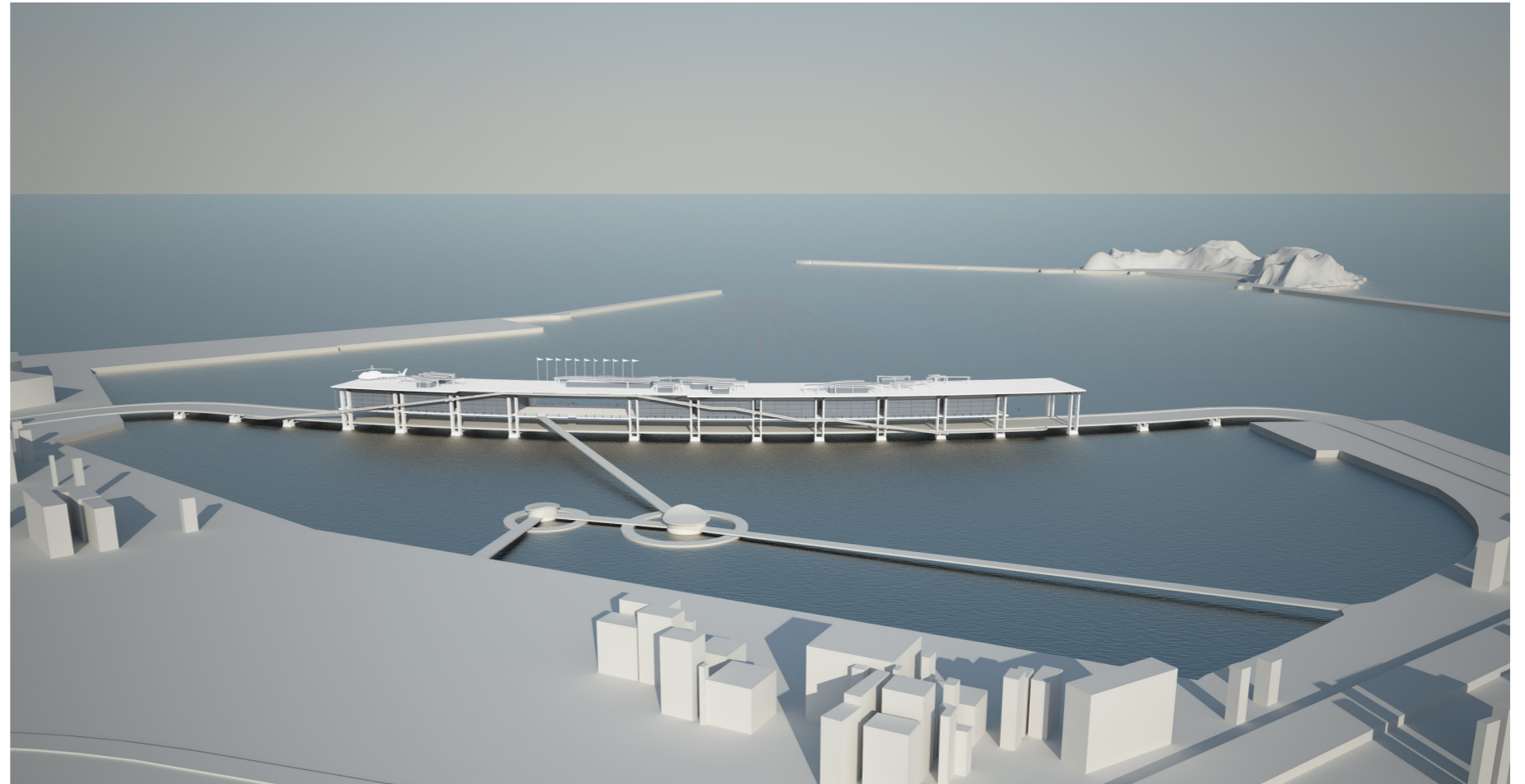


THE FORMS OF THE NATURE

The project purposes as an objective to create an architecture of low impact on the natural environment offered by the natural site.

The general address for a minimum impact on the natural geography than a symbolic landmark has chosen the low and horizontally extended form.

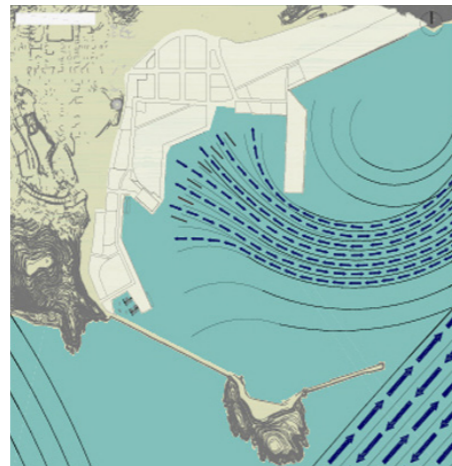
As the project site was proposed in the off-shore area the preservation of the suboceanic orography will be also considered important fact for the building foundation.



LOW IMPACT ARCHITECTURE

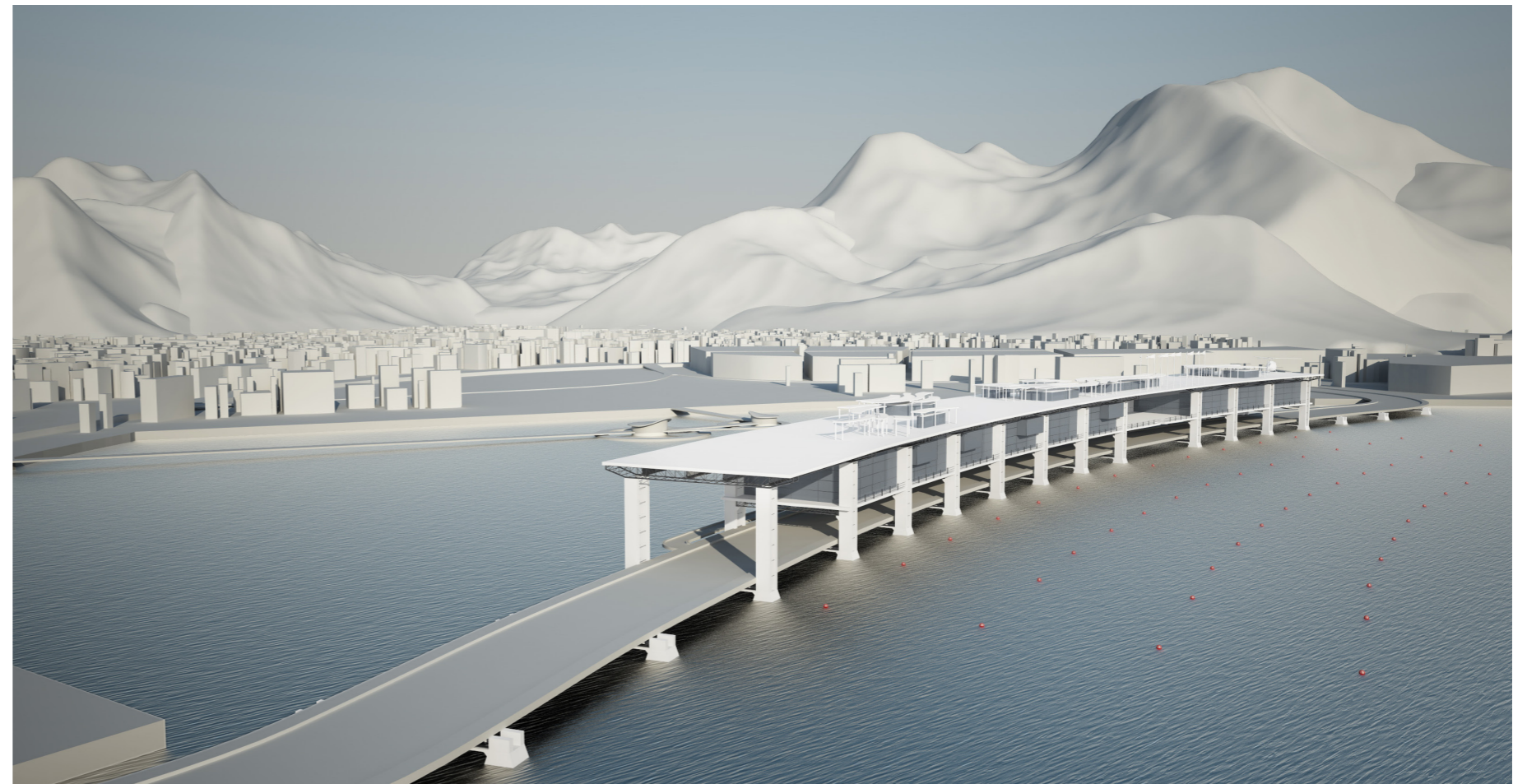
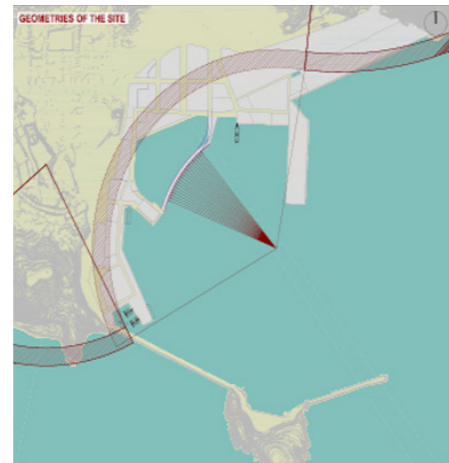
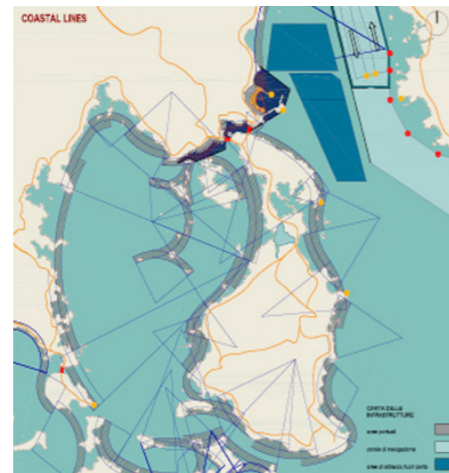
The project wants to revalue the climatic and environmental conditions that represent an important resource for the local culture and the local economy.

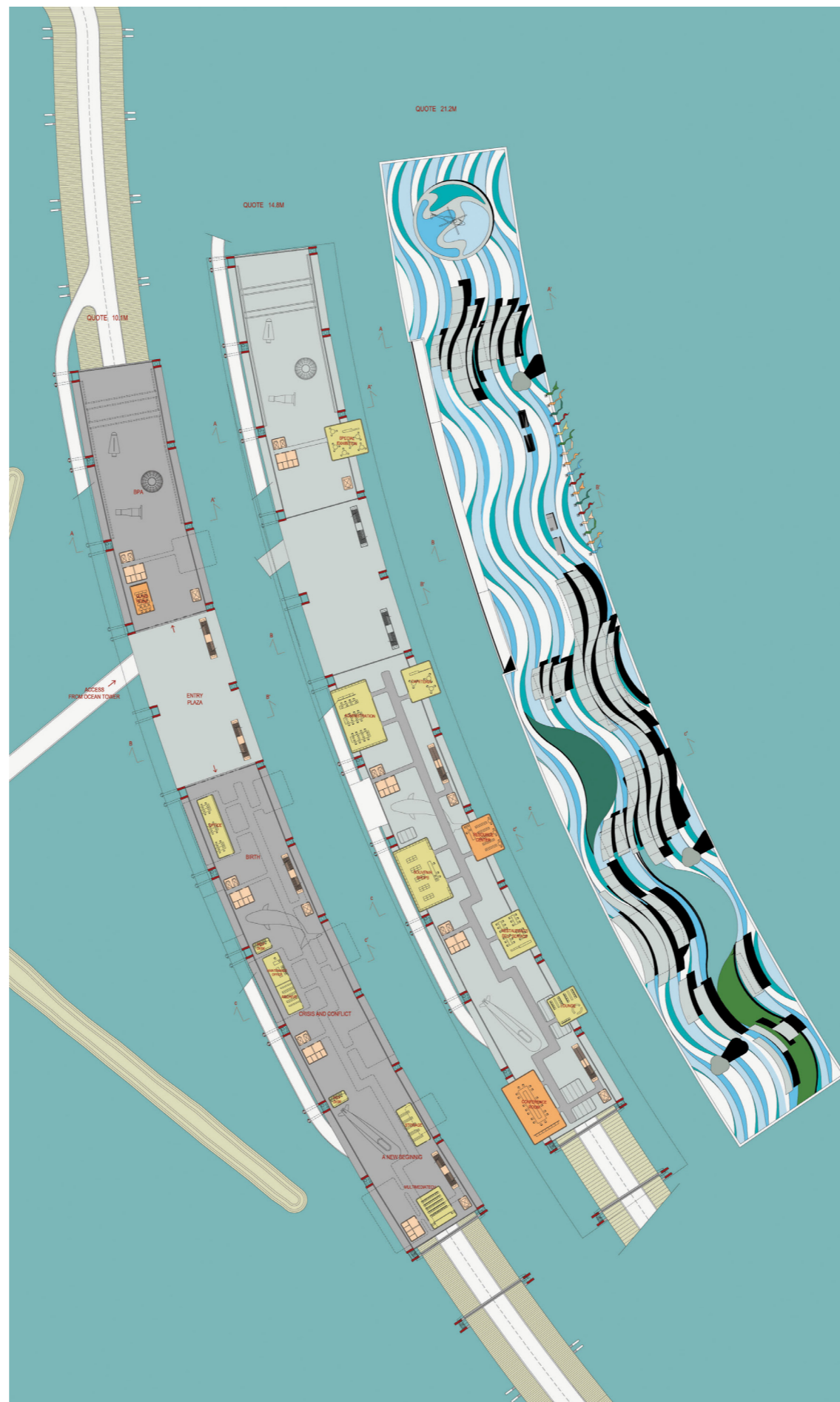
The Thematic Pavilion is located in an area with dominant wind and marine currents. Special devices, that utilize the current movements, are disposed on the sea like buoys. Other devices like turbines and the power generator produce energy.

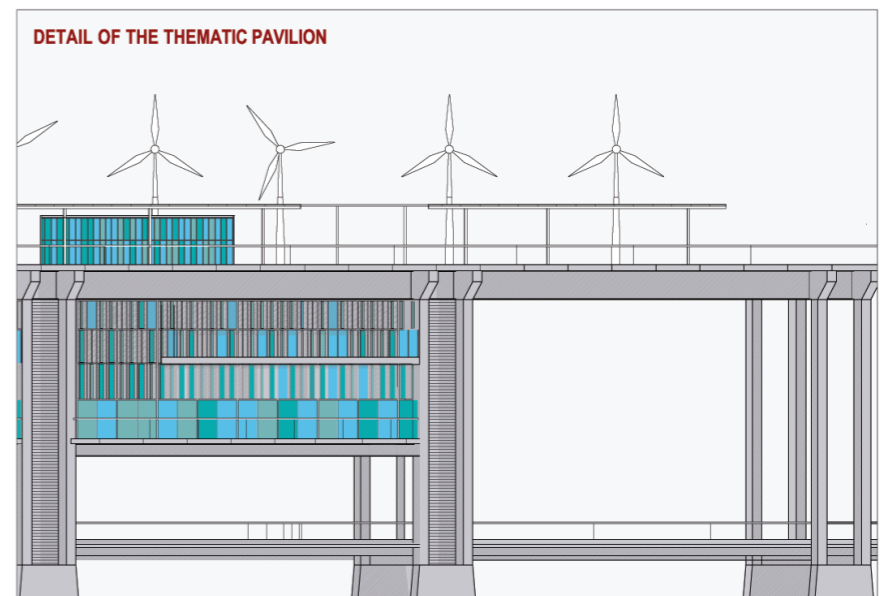
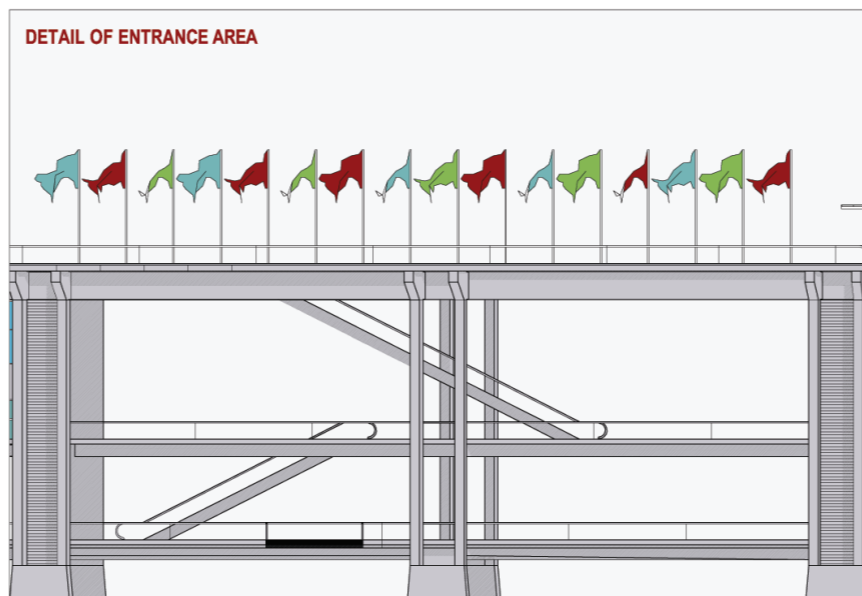
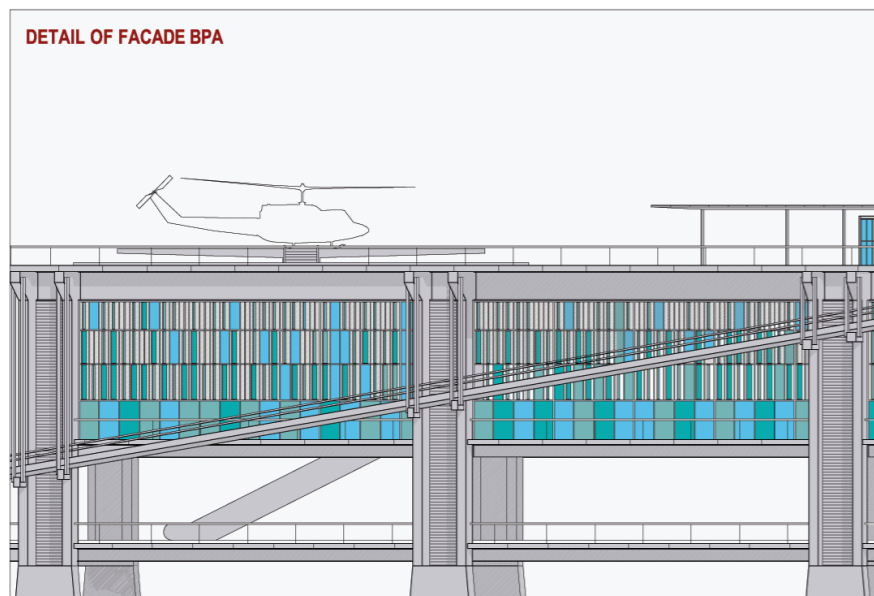
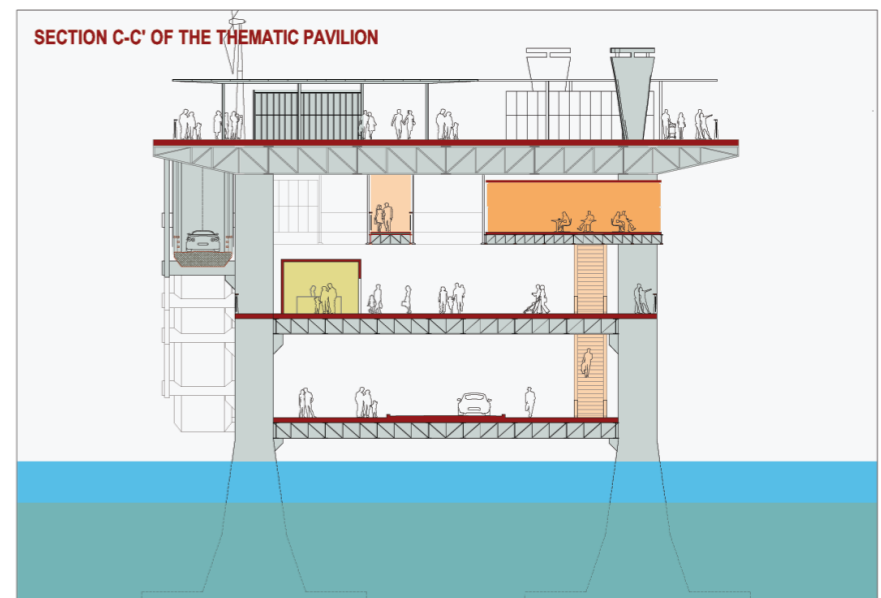
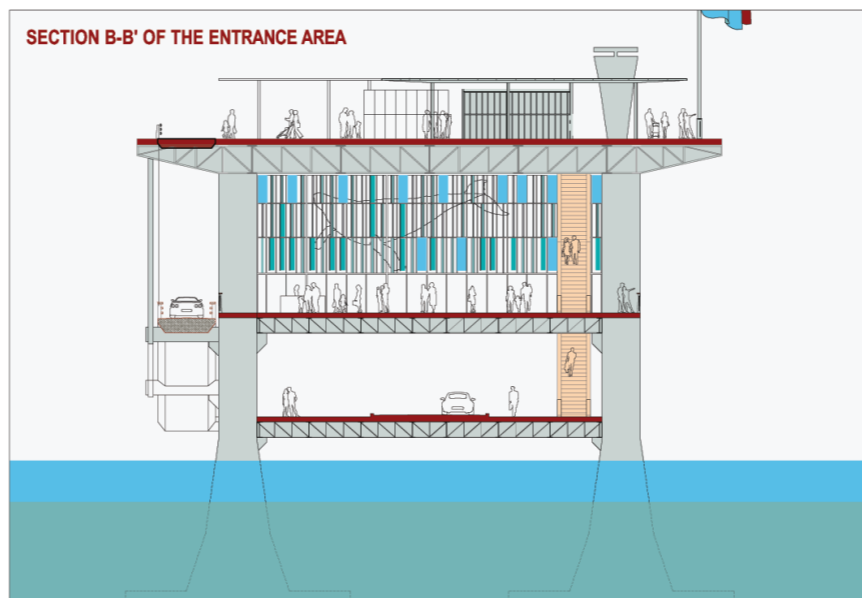
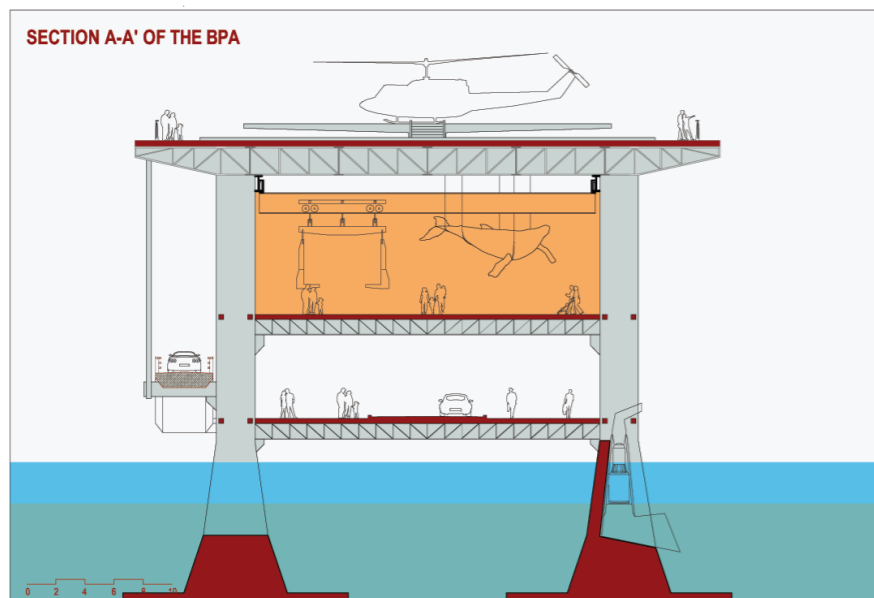
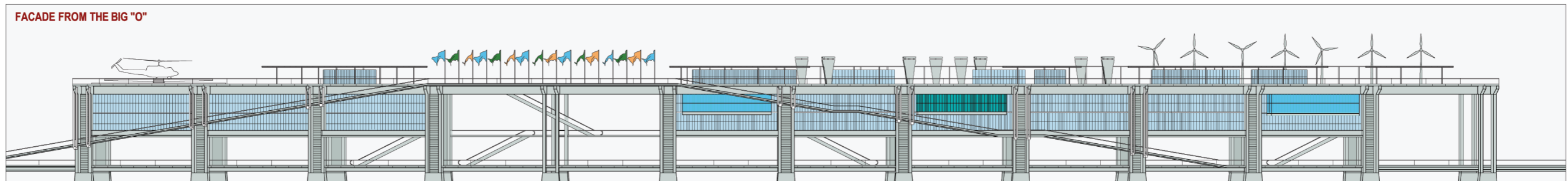
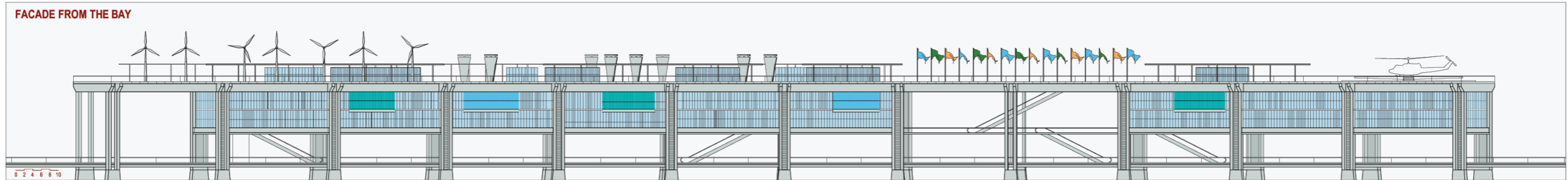


THE MARINE INFRASTRUCTURE

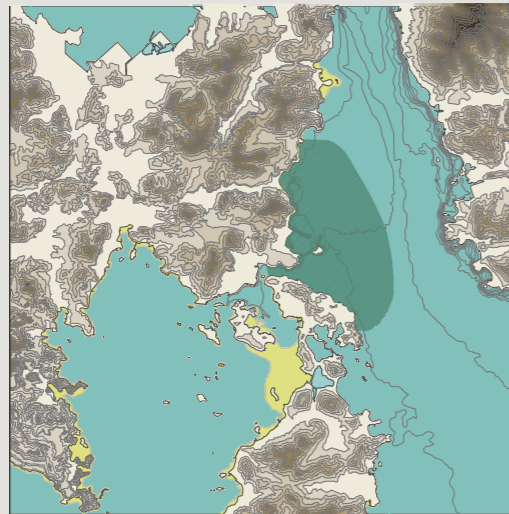
The project is characterized by the choice of forms related to the constructive tradition of the coast and the port manufactures. The Expo 2012 Thematic Pavilion building proposes a marine architecture which also plays an infrastructural role, like a road or a breakwater. The building allows a wide use flexibility also after the big exhibition event with the possibility event with the possibility of developing different activities referred to leisure and tourism.







THE FORMS OF THE NATURE

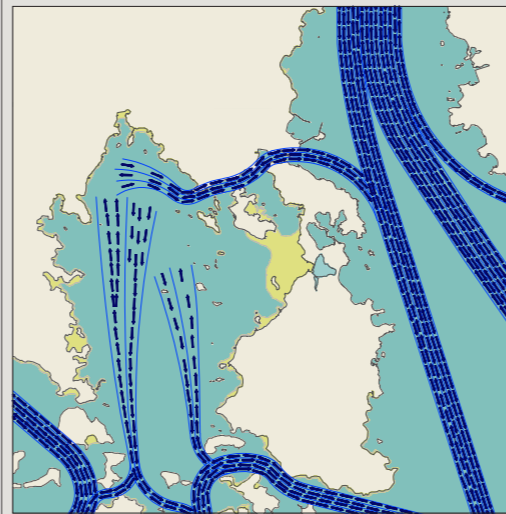


'Environmentally Friendly Architecture'

The Thematic Pavillon promotes environmentally friendly oceanic architecture taking preference of marine environment in order to realize the Expo's theme, 'The Living Ocean and Coast'. (Design information, 29.05.09,p.4)

The project has the objective to create an architecture of low impact on the natural environment. The general aim to modify with a minimum-impact the natural geography leads to choose a low and horizontally extended form. In this way, the building form becomes a symbolic landmark. The project tries to preserve the natural context forms with specific points of foundation that follow the lines of the sub-marine orography.

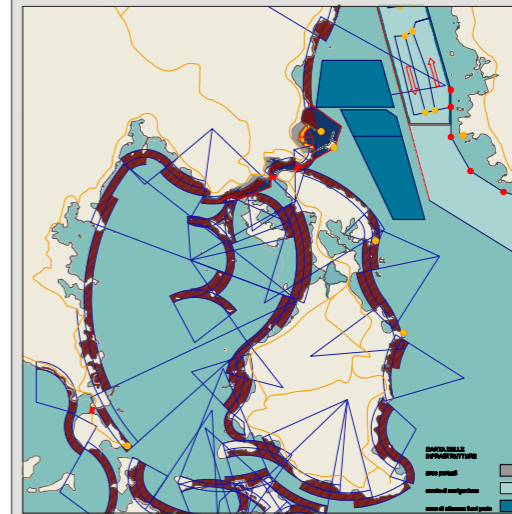
LOW IMPACT ARCHITECTURE



The southern coast of Korea is, differently from the eastern and western ones, presents relatively accentuated tidal ranges and *lias coasts*; in fact lagunar zones with characteristics of closed sea are developed here because of its curved coastal lines formed by archipelagos and small peninsulas. This kind of peculiarity has incentived an economy based on natural marine resources[...]. (*The characteristics of environment and oceanic biology in the South Coast of Korea, Yang-Ho Yun, Korea*)

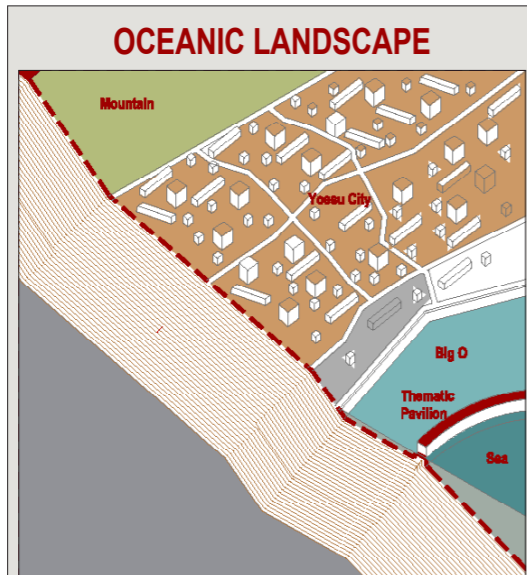
The project wants to revalue the climatic and environmental conditions that represent an important resource for the local culture and the local economy. The Thematic Pavilion is located in an area with dominant wind and marine currents. Special devices, which utilize the current movements, are disposed on the sea like buoys. Other devices produce energy: for example, the turbines, located in the vertical structures and the wind power generators located on the roof terrace.

THE MARINE INFRASTRUCTURE



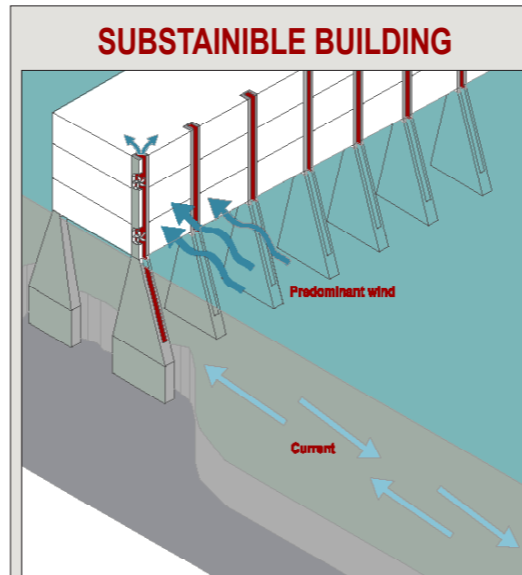
Therefore it should be a showcase for the 'living' exhibition and education of the marine technology and industry in Korea. Secondly, it should be standing for Yeosu's tourist spot after the Expo as the host city, Yeosu is expected to initiate and promote the tourism of the southern coast. Thirdly, as an oceanic infrastructure of Blue ECO-Polis, [...] a model for after-use of the Expo site, the design of the Thematic Pavilion should be futuristic to reaffirm the ocean's potentials. (Design information, 29.05.09,p.5)

The project is characterized by the choice of forms related to the constructive tradition of the coast and the port manufactures. The Expo 2012 Thematic Pavilion building proposes a marine architecture which also plays an infrastructural role, like a road or a breakwater. The building allows a wide use flexibility also after the big exhibition event with the possibility of developing different activities referred to leisure and tourism.



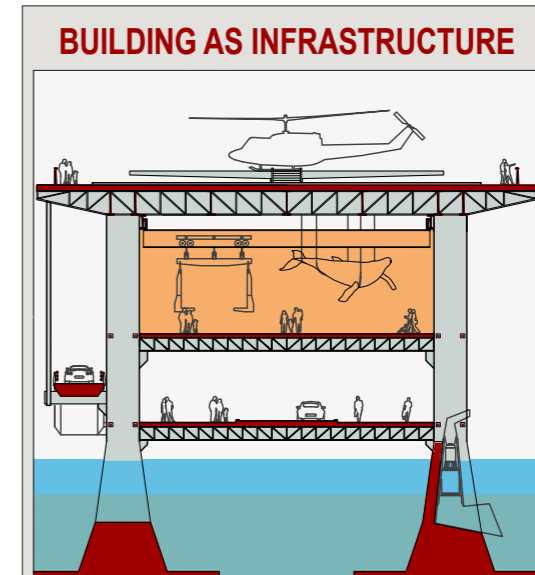
The southern coast of Korea is, differently from the eastern and western coasts presents relatively accentuated tidal ranges and *lias coasts*; in fact lagunar zones with characteristics of closed sea are developed here because of its curved coastal lines formed by archipelagos and small peninsulas. [...] (*The characteristics of environment and submarine biology in the South Coast of Korea, Yang-Ho Yun, professor in Cheon-Nam Univ., Korea*)

The building tries to relate itself as much as possible with the oceanic landscape, pointing out an ideal coast line, as a mediation between earth and ocean. This objective is pursued by a structure that answers to functional needs and at the same time tries to hide itself with peculiar constituent choices. For example, facades made of glass panels, great volume's interruptions and volume's transparency using glass, reflecting surfaces; and "mimetic" cover of pavementation as the sea's waves, too.



Participants can propose unique and experimental ideas that can apply green technology such as zero carbon emission and etc., so it would become a representative architecture of the environmental friendly Expo. (Q&A, 26.06.09, p.31)

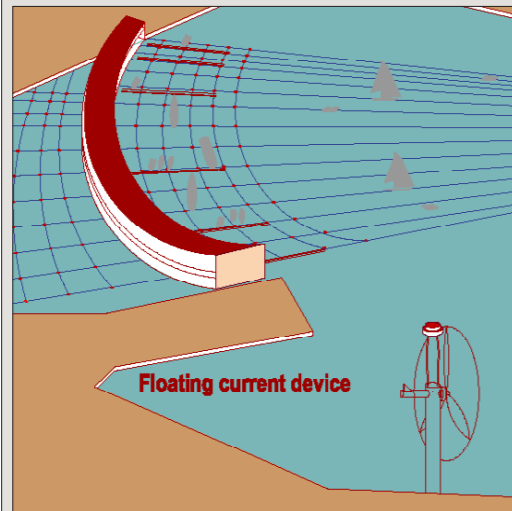
The project wants to revalue the climatic and environmental conditions that represent an important resource for the local culture and the local economy. Special devices, that utilize the current movements, are disposed on the sea like buoys. Other devices produce energy: for example, the turbines, located in the vertical structures and the wind power generators located on the roof terrace. The building tends to be self-sufficient about energy (zero emission / low impact) trying to use different ways of renewable energy production. The building becomes a great "experimental" machine for a better use of sea's, wind and sun energy.



Participants can propose unique and experimental ideas that can apply green technology such as zero carbon emission and etc., so it would become a representative architecture of the environmental friendly Expo. (Q&A, 26.06.09, p.31)

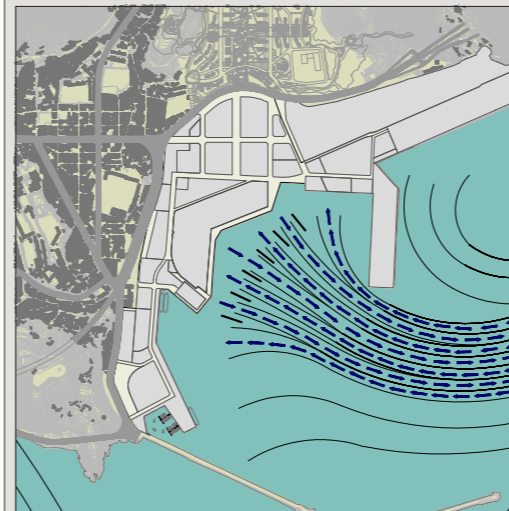
The building is thought in order to be both an infrastructural element (coinciding with the way, making so its realization more economic and converting the way itself into a covered promenade overlooked towards the sea) and a direct access to the building. At the same time, the building's structure should allow to replace the existing outer breakwater with a reduction of the change costs.

THE CURRENT AND THE TIDE



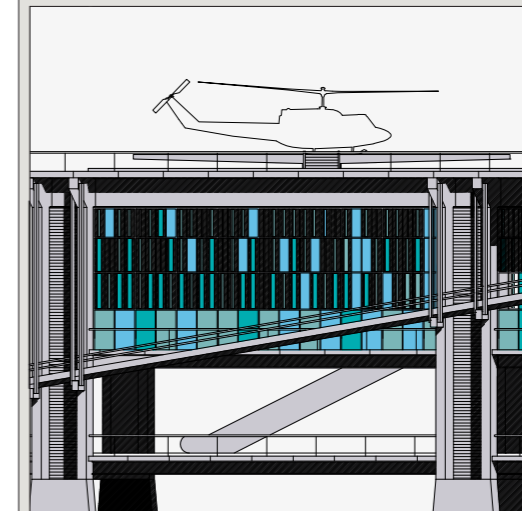
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The sea current operate the systems situated in the base of the structure: these systems produce through the kinetcs energy exploitation the air compression necessary for the turbine movement. A wide system of buoys transforms the water movement (caused by the currents and the tide changes) into energy.

THE EOLIC



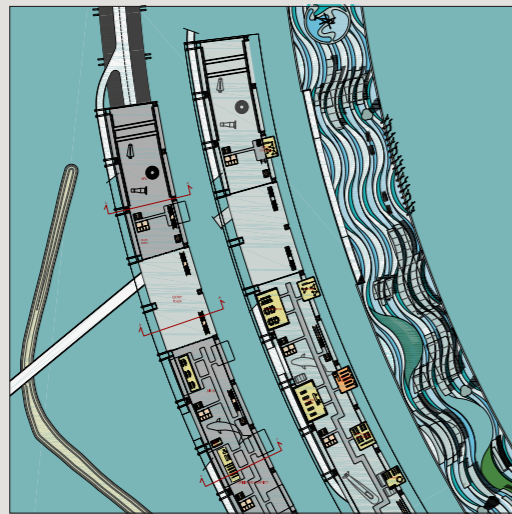
At the beguining of Chosun dynasty(15th century) the military port was situated in Jin-Rye but it was subjected to the wind over the East Coast of Yeosu and it was difficult to save the navy, so it was moved to the South coast under Ja mountain. This place corresponds to actual Han-Ryo Dong, Yeosu City. Some evidences like destroyed castels on Ja Mountain prove the histrorical facts. ("Diary during the Japenese Invasion", Sun-Shin Lee, didascalie a cura di Gee-Bong Lee, editore Bum-Woo)
Experimental systems for the eolic energy use charaterize the building. Specific experimental chimneys are placed within the bearing pillars of the building: into these chimneys the kinetic action of the compressed wind operates the turbines for the energetic production. Wind power generators and collecting wind chimneys (oriented according to the dominant winds) are placed on the roof terrace.

THE PHOTOVOLTAIC



Participants can propose unique and experimental ideas that can apply green technology such as zero carbon emission and etc., so it would become a representative architecture of the environmental friendly Expo. (Q&A, 26.06.09, p.31)
The articulated and flexible roof terrace system allows to place a consistent number of solar panels adjustable according to the best facing. Several photovoltaic panels, even mechanic, may be placed in every positions on the facades.

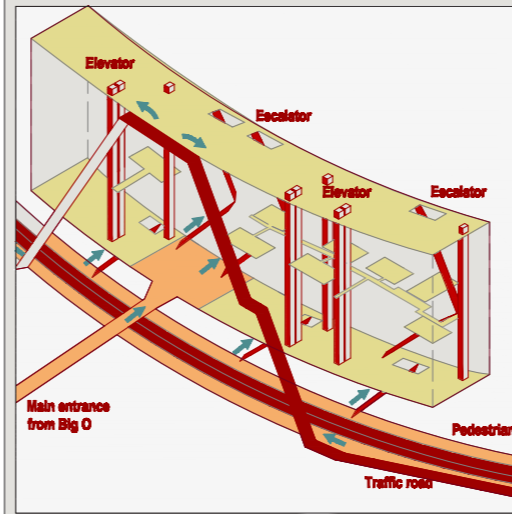
FUNCTIONAL PROGRAM



The Thematic Pavilion is the most creative and an experimental oceanic architecture, therefore it should be a showcase for the 'living' exhibition and education of the marine technology and industry in Korea. (Design information, 29.05.09,p.5)

The building represents a spatial organization consistent with the exhibition program and it is formed by an independent pavilion BPA (Best Practice Area) and by a succession of flexible exhibition places. These places should be both organized according to the sections expected by the EXPO program and to other different ways: for example, with different space divisions or with different positions of the platforms.

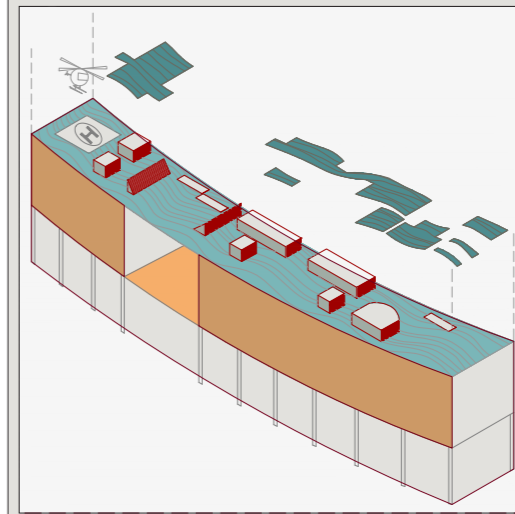
FLOW PLAN AND ACCESSIBILITY



In order to generate the synergistic effect between the Big "O", the Ocean Tower and the Thematic Pavilion, each spaces should be connected by the exhibition flow that the visitors can travel along and gives a variety of choices to view of the exhibitions. (Design information, 29. 05.09, p.12)

The mean pedestrian access is formed by the footbridge that comes from the Tower and that leads to the big covered square: this square allows to come into the BPA and the exhibition place. There are other possible accesses from the promenade below thank to a continuous system of mechanical ramps that allow to reach the roof terrace walking through the whole building. It also possible another independent and for emergency access, reserved to service vehicles: for the authorities it is possible to access with an external ramp that directly reaches the roof terrace.

PUBLIC AND OFFICIAL USE

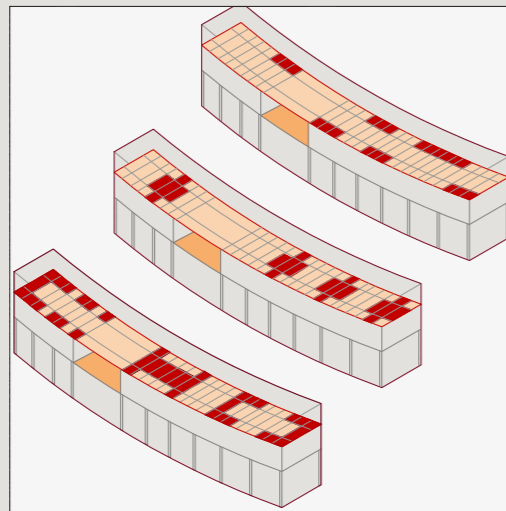


During the exposition, the Expo site will become a festive place encountering humans, oceans, information.

[...]
The theme of the Expo is illustrated and displayed in a newly created space. This new festive space is an iconic place of envisioning the Expo's theme and an ideal place to showcase the innovative technology and universal hope. (Competition information, 27.04.09, p.11)

The roof terrace is a wide public place with separated leisure places and an helicopter landing, placed around a wide official place. This wide public place ends the pavilion tour and opens to the EXPO area and to a spectacular sea view: it is imagined as a wide leisure area, with different places (gardens, water basins, restaurants, pergolas).

REUTILIZATION PROGRAM



Therefore, the design of the Thematic Pavilion building should be planned flexible for various uses after the Expo and sustainable architecture that can be evolved over time. (Design information, 29.05.09, p.4)
A structural plan should be established not only to be suited to the exhibition purpose during the Expo period, but also to be able to make modification for its structure or building materials depending on the uses after the exposition. (Design information, 29.05.09, p.11)

The building has been planned with big spatial forms in order to allow very flexible reutilization. Its infrastructural role (way, helicopter and boat landing) will be confirmed even through the realization of houses, hotels, museums, tourist ports with yacht-club. The big modules of construction allow the insertion of also different standardized structures.

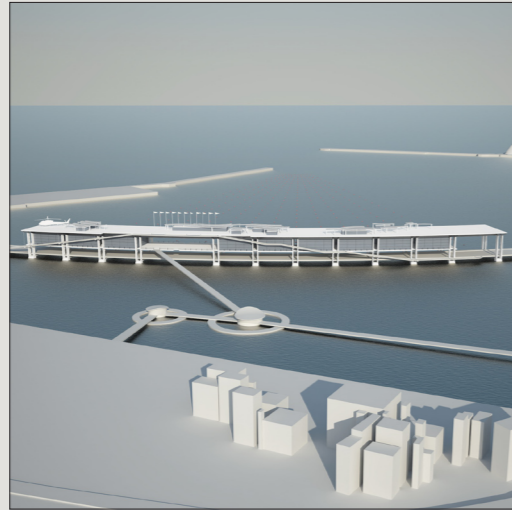
AREA TABULATION

Level	Projected surfaces	Functional spaces	area (mq)	%
EL. 10.1m	BPA (Best Practice Area)	Open laboratory for experimentation of advanced marine technologies, education room, w.c..	1555.6	24
EL. 10.1m	Thematic Pavilion	Thematic exhibition, front desk, ticket office, information offices, building maintenance offices, mediatech, w.c., storage	1490.3	23
EL. 14.8m	Suspended Floor	Special exhibition, administrative offices, gift shops, I.T. resource center, restaurants&self-services, lobby, conference room, w.c.	3150.2	48
EL. 21.2m	Roof terrace	Airstrip, reception and conference room, open place for public events or ceremonies, cafeteria, lounge, fitness center, swimming pool, open playground for children etc.	410.4	6
	Total		6606.5	100

ESTIMATED CONSTRUCTION COST

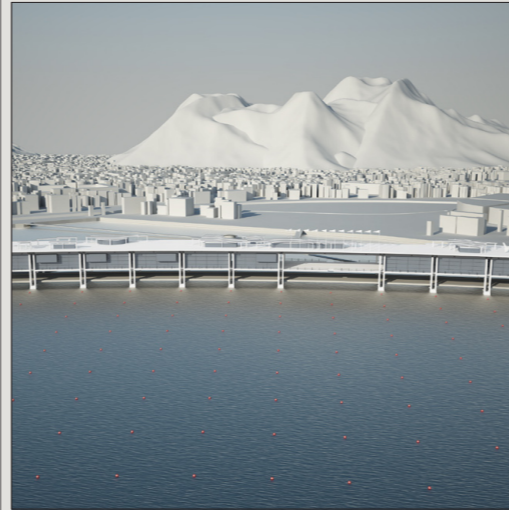
Voice	Description	Total cost (korean won)
Open spaces	Promenade with traffic and pedestrian roads	4,100,484,000
	External ramp	729,408,000
	Roof terrace	6,960,000,000
	Total	11,789,892,000
Covered spaces	BPA	2,705,700,000
	Thematic Pavilion	548,100,000
	Suspended floors	2,704,080,000
	Pavilions on the roof terrace	713,400,000
Total	6,041,280,000	
Structures	Foundation in reinforced cement concrete	678,600,000
	Pillars in reinforced cement concrete 0.6(l)x2.4(p)x18.4(h)	1,809,600,000
	Steel wired truss 0.6(l)x36.6(p)x1.8(h)	1,809,600,000
	Flat in precompressed cement concrete 25(l)x26.4(p)x1(h)	2,262,200,000
Facade	Curtain wall glasses	5,130,216,000
	Facade with coloured pannels in glass	1,224,612,000
Devices	Electricity	4,350,000
	Air-conditioning	4,350,000
	Elevators, escalators	4,350,000
Totale		30,757,980,000

VIEW FROM THE COAST



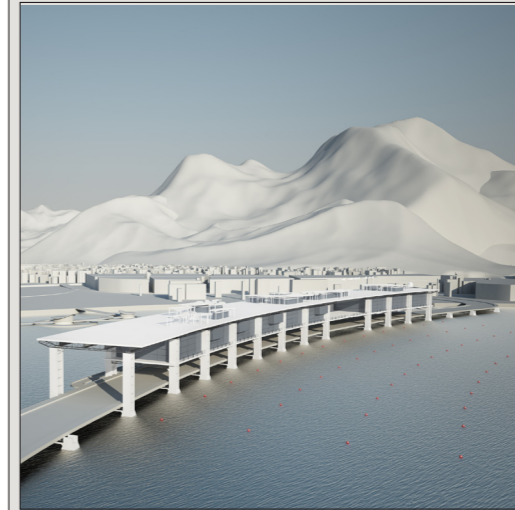
The building has been planned with big spatial forms in order to allow a very flexible reutilization. Its infrastructural role (way, helicopter and boat landing) will be confirmed even through the realization of houses, hotels, museums, tourist ports with yacht-club. The constructive, big forms allow the insertion of different standardized structures. The roof terrace is a wide public place with separated leisure places and an helicopter landing, placed around a wide official place. This wide public place ends the pavilion tour and opens to the EXPO area and to a spectacular sea view: it is imagined as a wide leisure area, with different places (gardens, restaurants, roofings).

VIEW FROM THE BAY



The project pursues to re-value the climatic and environmental conditions which constitutes an important issue for local culture and economy. The Thematic Pavilion is sited in an area with predominant wind movements, currents. Special devices which utilizes the current movement are disposed on the sea like boas. Other devices for producing energies like turbine located in the vertical structures and the wind power generators on the roof terrace. The building tends to be self-sufficient about energy (zero emission / low impact) trying to use different ways of renewable energy production. The building becomes an "experimental" machine for a better use of sea's, wind and sun energy. The sea current operate the systems situated in the base of the structure: these systems produce through the kinetic energy exploitation the air compression necessary for the turbine movement. A wide system of buoys transforms the waters movement into energy.

GENERAL VIEW OF THE BUILDING



The project is characterized by the choice of forms related to the constructive tradition of the coast and the port manufactures. The Expo 2012 Thematic Pavilion building proposes a marine architecture which also plays an infrastructural role, like a road or a breakwater. The building allows a wide use flexibility also after the great exhibition event with the possibility of developing different activities referred to leisure and tourism. The building is thought in order to be both infrastructural element (coinciding with the way, making so its realization more economic and converting the way itself into a covered promenade overlooked towards the sea) and a direct access to the building. At the same time, the building's structure should allow to replace the existing outer breakwater with a reduction of the change costs.

