

Concept

The central element of the House of Arts and Cultures is the multimedia ribbon, an element that runs through the eleven functional glazed boxes. This continuous element, wrapping simple volumes, makes these elements linked, designing one big fluid space and reflecting the deep union between Arts in order to make an harmonic ensemble. From the street at the edges of the area, in front of a remarkable spatial distribution, well visible from the outside thanks to the glazed box, the visitor will be induced to go in and enjoy the open spaces. From the big square at the ground level, the visitor could take part at all the amenities. Schools of Cinema, Theatre, Exhibition spaces especially designed for the new Contemporary Arts challenges, that needs adaptable and easily convertible spaces to host all of the functions.

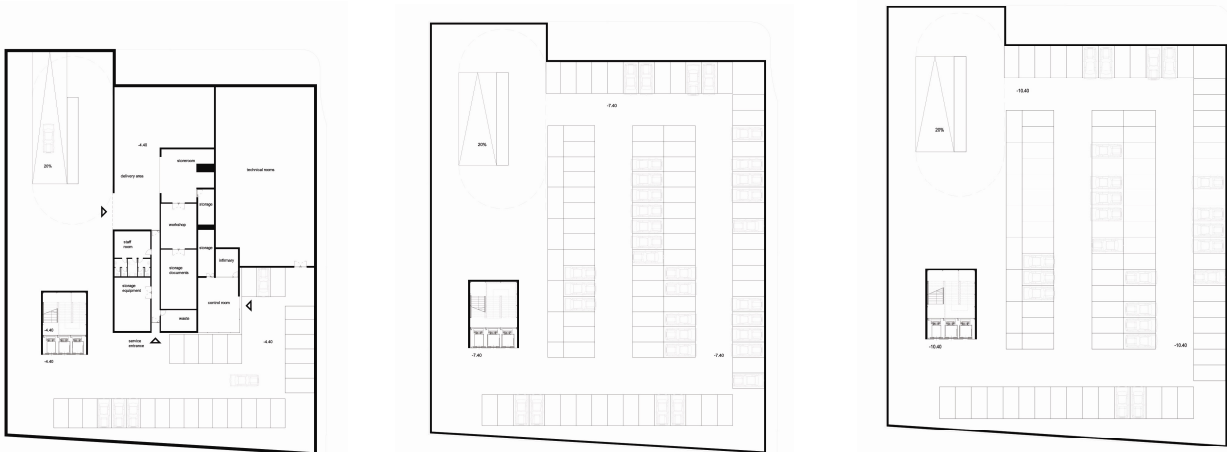
The big Performance Hall is located in the only big volume that touch the ground, designed for different events like music concerts, dance performances, congresses.

The spaces inside the big volume will host most famous artists and the best happenings.

The transparent façade allows fusion between external and internal space; people will experience the spaces of the House of Arts and Cultures impressed by a mix of colours floating in a ribbon and brightening boxes with roof gardens,

The piled up volumes symbolize interaction between artistic and cultural productions linked by the multimedia ribbon.

Bars, coffees and gardens will lead young people in these spaces to have fun and, in the meantime, take information about the House of Arts and Cultures activities.



Plans of the parking levels -5.00; -9.00; -13.00

Structure

The principal structure is composed by concrete columns from which start structural walls.

The principal glazed façade is made by a curtain-wall structural systems. The structure is built up by metallic rhombus that also have sun shading function.

Between façade and structural walls we'll find the other volumes, made by metallic beams and modular glazed facades. The glass module is 1,40 metres without vertical visible joints.

The ribbon, principal element of the project, is made by metal beams wrapped with metal net and finally covered by Corian®, a solid surface offering superior design possibilities and excellent long-term performance. The vertical cores is realized in concrete in the parking levels, and curtain wall in the visible areas. Glass and metal form the three ramps stairs and elevators.

The use of these materials connects the building of the House of Arts and Cultures with all the masterpieces of the Contemporary Architecture, giving lightness and high visibility at the functions.

The different volumes structure the building and have inside the different required functions.

At the underground levels is designed a parking area. The level -4.40 metre has the direct access from the street and also technical and delivery rooms.

Ground floor is directly accessible from the street, without needed of stairs and ramps: the city is inside the building at the ground level. Here the visitor find the reception, the information desk and the ticket office.

The first floating box is created by two areas on different floor where there is the Cinemateque.

At the same level visitors will find the foyer in the main hall, and the direct accesses to that one.

From the level +10.00 are located the administrative offices and the mediateque zone, with reading rooms, .

At the top of the mediateque there are areas for workshops and classes of sound, dance and drama. In the upper boxes there are bars and restaurants.

The exhibition area is located in the other volumes. The access is at the level +25.00. At this level visitors will find shops, bar and the raised plaza, were they could restore themselves after the artistic route.

Climate Control and Sustainability

The internal environment is maintained thanks to an 'all air displacement system'. Such a system uses only air as the cooling medium to the space, and this air is pumped at low velocity in from the floor at low level. The air is introduced into the floor void at low level. The floor void acts as a plenum or duct to transport the air to where it is required. The air is supplied to the space through floor outlets positioned strategically around the space. people or lighting. The air will rise gaining in temperature. It will pick up further heat at high level from the lights. This warm air, which will be above head height, could reach a temperature of 26°C before being sucked into the ceiling void through the lights, perimeter slot via the blind box and other holes. All the heat sources emit contaminants, machines as well as people. These are efficiently removed by the buoyancy driven airflow. This provides a good air quality within the occupied space. The amount of air supplied to each space must be sufficient to take away the heat gains within the space. A calculation needs to

be done once the heat loading of the space is confirmed. Spaces next to the building's perimeter will experience heat from outside, due to the sun and the air temperature.

This solar gain will vary in magnitude depending on the weather conditions, time of day and time of year. Irrespective of solar gain it is important to realise that direct and indirect sunshine will enter the building at different times of the year and this may be uncomfortable to occupants with sun directly on them and because of reflections on the display casings. It is recommended for this reason that internal blinds be installed. The solar gain at the building's perimeter spaces requires that more air be supplied here than to those spaces further back from the perimeter. It is important to realise that the temperature within each space will vary between a minimum of 20.5°C and maximum of 25.5°C. The temperature will be low when the space is sparsely occupied, has a small number of machines or, at the perimeter, when the sun isn't shining. Conversely the temperature will be high with a densely occupied space, a large number of machines or, at the perimeter, when the sun is shining. During much of the year warm air, from the ceiling voids, is mixed with fresh air to provide the full quantity of air required for cooling. The mixed air is cooled using refrigeration equipment. The quantity of fresh air will usually be greater than the minimum required and during certain conditions will be entirely fresh air. This minimises the energy used by the refrigeration machines for cooling. It also minimises the energy required to heat the air during winter. The humidity of the air supplied to the space will be dictated by the humidity of the outside air and the number of people in the building.

