

## JEDDAH EXHIBITION AND CONVENTION CENTER

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### Abstract

The age of globalization has increased demand for contemporary and creative conference and exhibition facilities. Therefore, this work has proposed the development of an exhibition and convention center at Jeddah, Saudi Arabia. In this work, three case studies were analysed in terms of convention center design and requirements. Based on the case study analysis, for the proposed convention center, the estimated area is 20462 m<sup>2</sup> and the estimated site area is 68000 m<sup>2</sup>, which includes the build area, outdoor parks and landscape and car park spaces. This convention center has several zones such as exhibition organization and administration spaces, storage area, display area, exhibition maintenance area, work area, laboratory, workshops, studio, office. In addition, the proposed site is located in the northern part of Jeddah. This site was selected as it is surrounded by residential areas and it is also close to the sea area. Hence, it will be an idea place for the convention center. The development of this exhibition and convention center is expected to benefit the community of Saudi Arabia and serve as a platform for them to present their own new ideas and inventions.

**Keywords**-- convention center, exhibition, architecture, Saudi Arabia

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### INTRODUCTION

Exhibition and convention centers are a very important component of the conference industry [1]. These facilities make a crucial financial contribution to the location and its owner. Furthermore, the demand in conference operation around the globe has significantly contributed to the development of devoted convention and exhibition center [2]. As a result, with the construction of exhibition and convention center, the reputation of the location has often been improved and allowed its economic stabilization, leading in additional financial and social benefits [3].

Exhibition and convention centers are also vital contributors to the tourism industry, in terms of convention tourism [4]. The service and facilities provided at the location and are critical to the achievement of convention tourism. Visitors to the convention and exhibition center can be divided into several groups, including conference managers, conference attendants and exhibitors from other countries [5]. In addition, the exhibition and convention facility is a significant location for convention tourism among its visitor. Consequently, many countries are increasingly moving to convention tourism by developing more exhibition and convention centers [6].

Saudi Arabia is one of the most prolific tourist destinations in the Middle East as it accommodates the holy place of Makkah [7]. Moreover, an enormous number of tourists and pilgrims visit this country every year to fulfil their vows and prayers. In addition, Jeddah, which is Saudi Arabia's capital, is a port city and is also a tourist attraction area due to its location, which is close to the Red Sea [8]. To further enhance the economy of this city, the development of an exhibition and convention center will be a necessity in the near future. Hence, this work proposes the development of an exhibition and convention center at Jeddah, Saudi Arabia.

### CASE STUDIES

In this work, three case studies related to exhibition and convention were analysed. The case studies selected are:

a. Boston Convention and Exhibition Center

- b. The Hamilton Building (Denver Art Museum Extension), Denver, U.S.A
- c. Magma Arts and Congress Center

### Boston Convention and Exhibition Center

Boston Convention and Exhibition Center is located at Boston, United States of America (Figure 1). It was designed by architect Rafael Viñoly. This building is surrounded by large-scale mixed-use buildings on the north side and small scale residential structures on the south side. Total area of the project is 1.7 million square feet. The building is 2,000 feet long. The arched roof slopes from a height of 200 feet to 40 feet over a length of 2000 feet, it covers 150 feet and projects out for 40 feet on each side of the supports. The cantilevers over the entrance project out a distance of 100 feet. Furthermore, the supports of this building are V-shaped. The V-shaped columns take the live load from the meeting rooms and social spaces and transfer them to columns below the ground. In addition, the idea of the massive roof of the building is to make a gradual transition between the shorter residential buildings to the south and the other taller commercial buildings to the north. This transition allows the massive size of the center to integrate with the surrounding area. Likewise, the exhibition hall is subdivided into 3 smaller halls with pedestrian bridges and movable partition walls that separate the halls. This means having a flexible space that can be adjusted according to the exhibition's size and needs.

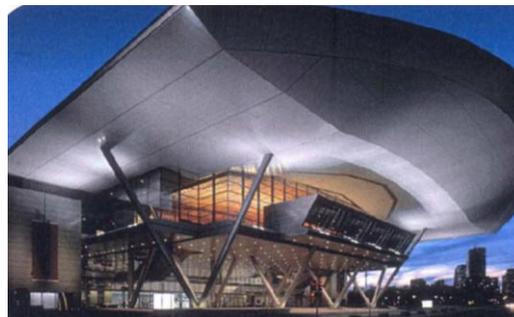


Figure 1. Boston Convention and Exhibition Center

**The Hamilton Building (Denver Art Museum Extension)**

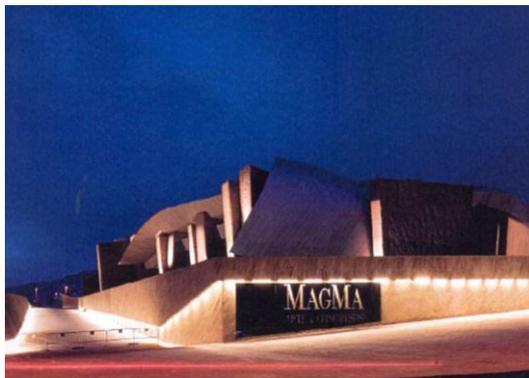
The Hamilton Building (Denver Art Museum Extension) is located a Denver, United States of America (Figure 2). It was designed by architect Daniel Libeskind. This building has an area of 13564 m<sup>2</sup>.The concept was derived from the nearby rocky mountain peaks and rock crystals. The angles that project in all directions represent the constant growth of the city of Denver. The building consist of geometric titanium clad and glass. The building has two stories. Moreover, the sharply cantilevered section of the building cuts across the street towards the north building above an enclosed steel and glass bridge that links the two structure. The entrance to the building is through a visitor service area. The main lobby also provides access to the museum shop and a 280 seat auditorium. Furthermore, odd shaped plans with lots of sharp angles which reflect the architect’s concept of the mountains.



**Figure 2.** The Hamilton Building (Denver Art Museum Extension)

**Magma Arts and Congress Center**

Magma Arts and Congress Center is located at Tenerife, Spain (Figure 3). The building is located close to the airport and highway, and is placed in the biggest tourist spot on the island, surrounded by numerous hotel complexes. The building appears as a focal point in the city It was designed by architects Fernando Martin Menis, Felipe ArtengoRufino and Jose Maria Rodriguez Pastrana. The design was inspired by the semi desert landscape and sea side. The building is placed on the hill and it shows of its profile against the sea. The building texture and materials show integration with the environment. The main conference hall is placed on the ground floor. The roof of the building represents the flow of water. In addition, the fractures in the roof create fractures of light and ventilation.



**Figure 3.** The Hamilton Building (Denver Art Museum Extension)

**PROGRAM ASSUMPTION AND SPACE DETAILS**

For the proposed exhibition and convention, the estimated build area is 20462 m<sup>2</sup>. Furthermore, the estimate site area is 68000

m<sup>2</sup>, which includes the build area, outdoor parks and landscape and also car parking area. Table 1 shows the zone division of the proposed exhibition and convention center..

**Table 1.** Space details

| Zones                       | Area (m <sup>2</sup> ) |
|-----------------------------|------------------------|
| Exhibition hall             | 10773                  |
| Exhibition preparation area | 4300                   |
| Permanent use gallery       | 420                    |
| Library                     | 120                    |
| Research lab                | 504                    |
| Café and restaurant         | 600                    |
| Kitchen                     | 240                    |
| Workshop spaces             | 600                    |
| Auditorium                  | 650                    |
| Conference room             | 400                    |
| Meeting rooms               | 465                    |
| Media room                  | 100                    |
| VIP Lounge                  | 160                    |
| Registration desk           | 500                    |
| Director office             | 30                     |
| Assistance office           | 20                     |
| General managers            | 96                     |
| Secretary                   | 96                     |
| Employees                   | 240                    |
| Meeting room                | 80                     |
| Changing room               | 20                     |
| Archive                     | 48                     |
| Total                       | 20462                  |

**PROPOSED SITE AND ANALYSIS**

For this work, the proposed site is located in the northern part of Jeddah (Dark blue region in Figure 4). The site is located on The King Abdul-Aziz Road which is a major highway. The site is surrounded by residential areas where the most educated part of society lives. The site is close to the sea, which is the main gathering point for people. The site has a total area of 68461 m<sup>2</sup>. In terms of climate, the site has high level of humidity at the end of the summer season in August. Furthermore, the lowest temperature is during December and January, and the highest temperature is during June and July. Likewise, rain is scarce and usually light showers accompanied by winter and spring thunderstorms. In addition, prevailing cool winds come from the northwest side. In terms of accessibility, this site can be assessed from King Abdul Aziz Road, Prince Naif Street and Abdullah Al-Tanoukhey Street. The proposed zoning for the site is shown in Figure 5.



**Figure 4.** Proposed site

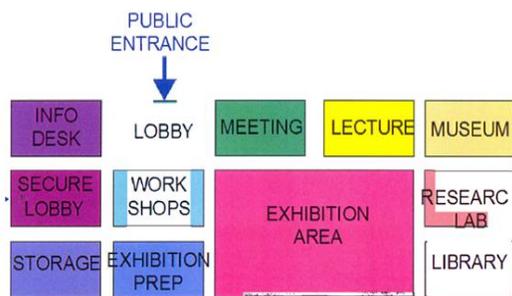


Figure 5. Proposed zoning at site



Figure 8. Front view of the exhibition center

**PROJECT DESIGN**

The Jeddah Exhibition and Convention Center is a place for exhibition. This place can be utilized for any types of exhibition. This center was design with the following features which are exhibition organization and administration spaces, storage area, display area, exhibition maintenance area, work area, laboratory, workshops, studio, office. Furthermore, the exhibition center was designed with flexible and adaptable space to redisplay and regroup items. Likewise , these spaces can accommodate different types of exhibitions such as permanent, temporary, travelling, thematic, systematic, object oriented, interactive, open-plan, linear, and complex layout. Moreover, the walls are designed with uninterrupted surfaces to display paintings and two-dimensional objects. The wall are comprised of Movable fabric-covered plaster board-clad partition. In addition, the floor are designed to withstand heavy objects. In terms of security, the building is designed with barriers and intruder detection on external openings and removable hinges on external doors and infrared detectors. Furthermore, the center is fitting with suitable lighting system that complement the exhibition area. Figure 6 to Figure 8 shows the proposed design of the exhibition center.



Figure 6. Top view of the exhibition center

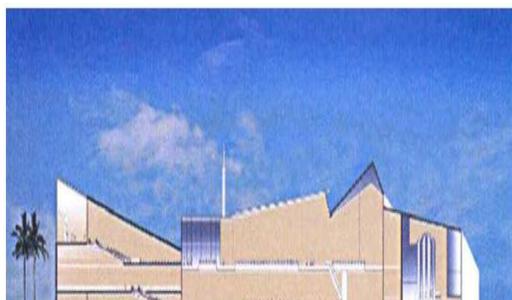


Figure 7. Side view of the exhibition center

**CONCLUSION**

This work has proposed the development of exhibition and convention center at Jeddah, Saudi Arabia. The estimated area for exhibition and convention center is 20462 m<sup>2</sup>. This exhibition center is comprised of several zones such as exhibition area, library, research lab, workshops, lobby, preparation area, meeting room, administration offices and outdoor parks. This exhibition and convention center is expected to promote Jeddah as a main tourism attraction and the key destination for organizing world class conventions. Furthermore, this center will contribute to the overall economy of Saudi Arabia.

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