Exhibition Space Design for Business Incubator in The New Era

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Exhibition Space Design for Business Incubator in The New Era

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Abstract. The main function of exhibition space design is to show visitors the enterprise culture, enterprise purpose and development direction. In this paper, the green design concept is adopted to design the exhibition space reasonably. Besides, the main manifestations of high-tech technology in exhibition space are summarized. Finally, several high-tech technologies are applied to the exhibition space design of incubator enterprises to exhibit the characteristics of enterprise culture preferably and give visitors a more pleasant experience.

1. Introduction
With the development of the times, more and more business incubator projects are born around us. It is a new concept of centralized office, which provides office space and professional technical services to the newly established science and technology enterprises. Therefore, how to attract potential innovative enterprises at the beginning of the project is the important responsibility of the project investment department. Opening incubator exhibition space is an important way to show the advantages of business incubator to the country, people and innovative enterprises.

2. General situation of the project
The project is located in the high-tech industrial park, and the exhibition hall is located on the first floor of Building 1. The pink area in Figure 1 is the 600m² display area a height of 4.5 meters, and as a non-bearing wall, the dividing wall in the space can be removed. After the communication with developers, there will be a conference room which can take in one hundred people, and the main entrance will be located in the lower right area. What’s more, the space at the main entrance will be used to show the business information of the incubator developers, and other regions will be designed as an external promotion to display new stationed enterprises freely, and this display mode will have the characteristics of easy replacement, and advocate the purpose of green design. As Figure 2 shows the exterior walls of Building 1 are mainly grey and white with a beehive shape, and the surrounding landscape is not completed. The interior of the exhibition hall is blank, and the fire pipes and alarm are distributed at the top.
3. Design concept of exhibition space for business incubator

3.1 Display of high-tech technology

With the progress of science and technology, high technology has been applied in exhibition design inevitably. Digital media technology creates virtual scenes through sound, light and electricity, which make visitors have an immersive experience. By using the three-dimensional holographic projection, the design of the exhibition stand is no longer limited to the particularity of the place, but can integrate the visitors into the exhibition in a more flexible way rather than simply take a fancy look. Nowadays, novel high-tech techniques are widely used, such as somatosensory interaction, multi-touch table, ground interactive projection, holographic 3D projection, arc screen cinema and ball screen cinema, etc. as shown in the Figure 3-9.

Interactive means is adopted to attract visitors to stop in this design of the exhibition hall, which uses four high-tech means: multi-touch interactive multimedia platform, somatosensory interactive system, ball screen movie and arc screen cinema. The multi-touch interactive multimedia platform is placed in the exhibition hall of each enterprise. People can interact with multimedia platform through finger touch, and enterprise propaganda materials are pre-implanted in the interactive platform for promotion. After completing the reading of the materials, the visitors can also participate in the game session with the prize contest, which can increase the enthusiasm of the visitors.

In the enterprise exhibition hall, there are also two LED display screens on the vertical ground, which is not only used for playing the promotional video, but also for playing the game with the visitors. According to the cultural characteristics of the enterprise, the interface of the somatosensory interactive game can be exclusively customized, for example, the game interaction and knowledge quiz and scene shooting are performed with the exclusive doll characters of the enterprise.

A spherical theater is placed in the middle of the exhibition hall, which is used to broadcast the corporate video of incubator developers. The special spherical screen makes the visitors feel surrounded in the cinema, where high-fidelity stereo ring sound is also equipped with. This way of display and promotion is widely regarded as the most experienced way, for the strong visual and auditory feeling. Besides, the cinema space can also be used as a temporary rest space for visitors. Because of the limited space, the spherical cinema can accommodate about ten people to watch at the same time.

Because of the large area proportion, the projection screen in the conference room abandons the
traditional vertical plane and chooses the arc screen, which can not only give visitors a different viewing experience, but also take into account both the broadcasting of corporate video and the official venues for holding seminars.

3.2 Application of green design

“Green Materials” was first presented in the IUMRS International Conference, referring to materials that have minimal environmental impact on the Earth's environment or that are beneficial to human health, during the process of raw material acquisition, product production and use, recycling, and waste disposal. Based on this definition, we can see that the use of green materials is a trend in the decorative design industry. In this exhibition space design, the use of green materials is proposed in the beginning, which means the advantages and disadvantages of green materials should be considered in the later stage of design. For designers, how to achieve the goal of green design while meeting the customer's needs become a challenge.

The materials which cannot be recycled and degraded, for example, foam, plastic, KT board, wood boards, etc. should be used less. And the platycodon grandiflorum, glass, cardboard, cloth, soil and other materials, which can be recycled, should be adopted to the greatest extent. However, because of the poor compressive strength of green materials, such as platycodon grandiflorum, if it is used in cabinet and cabinet door fabrication, the degree of firmness is not very ideal. As a result, in the materials selection of display cabinet, it still tends to use multi-layer panel with moderate environmental protection performance and compressive strength. Therefore, the selection of materials should be considered overall according to the actual situation.

The performance of green design in this project is reflected in the using of shelves and booths to divide the display space, which avoid disposable design to the utmost, and can reduce the use and waste of unnecessary materials effectively, as well as the decoration waste.

The traditional mode of the printed publicity brochures and posters of enterprises is also a disguised pollution and waste to the environment. But in this design, the traditional methods of publicity will be changed, and those new technologies such as two-dimensional codes, multi-touch tables and three-dimensional holographic projection will be adopted to reduce the pollution caused by printing brochures. Visitors can scan two-dimensional codes through mobile phones to obtain relevant enterprise information and audio-visual information, and convert paper information into electronic information, which is more convenient for visitors to carry and read. Besides, by using digital media technology, multi-touch tables have the characteristics of large information capacity and easy upgrade. It is easy to update in the later stage when you need to replace display materials. What’s more,
multi-touch tables has less requirements for the service environment and occupies less display space, as long as there is an electrified socket it can be displayed without the need to fabricate the display counter.

In the lighting design of the exhibition hall, the natural light is fully utilized through the window and the door. Although high energy-saving lighting equipment is used in areas where natural light is insufficient, the lighting is controlled by intelligent voice control. In the absence of visitors, the lighting of the exhibition hall will automatically extinguish or reduce.

4. Design of exhibition space for business incubator

4.1 Functional partition
In the display design of incubator enterprises, the exhibition hall is divided into nine sections by the display cabinet and booth, small conference room, conference room, incubator developer exhibition area, and six resident enterprise exhibition zones, from the top right corner to the bottom. The visitor's tour route is a closed streamline around the booth. The space of the exhibition hall is divided into different color systems, as well as the environment atmosphere, as shown in Figure 10-13. Different colors can stimulate people to have different psychological effects on objects, and different degree of color lightness also bring different perceptions. According to the characteristics of space environment, reasonable color layout should be carried out in the display space. The actual investigation of the local people's preference for color bias will be more conducive to the design of display space for designers.

4.2 Exhibition area design
The office space of the whole incubator enterprise exhibition hall is located in the high-tech emerging industrial park. The main workers are young and middle-aged people. In order to cater to their aesthetic needs, the selected chief colors are purple, green, orange, and grey, etc. The hue takes unsaturated color scheme as the principal thing.

The entrance of the exhibition hall is located in the lower right corner of the layout plan. When the visitors come in, the first section they will see is the sand table of the incubator developer, and the reception desk is on the right hand side, of which the background wall is purple, and the honor of incubator developer is displayed on the background wall. Walk left along the tour route, the left hand side is the negotiation area for the intended customers. The white object facing the visitors is the spherical cinema area, as shown in Figure 14. Then, enter the enterprise display areas, and each area of the enterprise display area is equipped with multi-touch interactive multimedia platform, which is used to show the enterprise propaganda materials to the visitors. And the color of the background walls of the enterprise display area are green and orange, which can make the visitors have visual stimulation by the contrast of the cool and warm color tones. After visiting the exhibition area, you will arrive at the large conference room area along the tour route, and the large curved screen will be visible. There are also a lot of seats in the conference room, unlike the fixed seats in the cinema, they are movable leisure tables and chairs, which can change their functions at any time when there is no meeting, as shown in Figure 15. Small conference rooms can be accessed from the large conference rooms, which are mainly for the convening of high-level meetings, so they are more concealed.

The lighting design plays an important role in the design of the exhibition hall. In addition to using
natural light and providing normal lighting, the selection of the spotlight which can illustrate the atmosphere can make the visitors notice the meaning of the design expression, as shown in Figure 16. High energy saving lighting equipment is adopted in the exhibition hall, and the lighting is controlled by intelligent voice control.

5. Conclusions
The purpose of exhibition space design is to transmit the enterprises information to visitors. Green design and high-tech technology are adopted in the design of the whole exhibition hall to achieve this purpose. The rhythm of visitors is designed through the overall route, so that visitors can blend in with the exhibition hall, so as to achieve the interaction between visitors and the exhibition hall, rather than unilateral output of the exhibition hall. A great physical and mental pleasure of interactive experience will be the ultimate goal of this design, which also deepens the participation of visitors.

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