
Summary: The emergence of the World’s Fairs was closely connected with construction and the industrial revolution – and the desire to showcase its achievements.

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Dubai Expo 2020 is the first World Expo in the Middle East and the first in the history (170 years) Expo where all 192 participating countries have their own pavilions. If we add partner and thematic pavilions to this, we get a grandiose city of the future.

The UAE, as the host country of the Expo, has indeed become the centre of global peace for half a year. Leading experts from all over the world have rushed to the exhibition. Expo 2020 is an opportunity to see dozens of projects by the best architects and bureaus from all over the world at the same time.

Keywords: Dubai Expo 2020, Opportunity pavilion, Mobility pavilion, Sustainability pavilion, Nicholas Grimshaw, Norman Foster, AGi Architects

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The exhibition is arranged like a city. There is a central square, above which a huge dome rises, and avenues with streets diverging to the sides and divided into three themes: Mobility, Opportunity and Sustainability. They are subject to one common theme of the Expo, which sounds like a slogan: “Connecting Minds, Creating the Future”.

All Dubai Expo 2020 venues are built from scratch. The complex includes 275 structures, including the Dubai Exhibition Centre Skytrain station (it was also built specifically for the Expo). Al Wasl Plaza, with the largest self-supporting dome designed by Adrian Smith + Gordon Gill Architecture from Chicago, is at the centre of the exhibition. It is the most complex structure of the exhibition. More than 800 technical specialists attended its installation. During the day, the dome gives a saving shadow; in the evenings, it

is illuminated with multi-coloured lights. The opening ceremony of the exhibition was also held here.

The participating countries developed the concepts of their pavilions within the given thematic areas. And each country did it in their own way. Some went along the path of local history and patriotism, some looked in the direction of conceptual art, and some in the direction of science and technology. Others have tried to combine everything.

Norman Foster also opted for a three-part structure. It is rather rigid and concise but at the same time plasticity very complex ribbed structure on three supports with a green zone in the centre.

Foster + Partners designed the Mobility Pavilion. As the authors of the architectural concept of the pavilion said, “Dubai is emerging as a global hub for the design and construction industry, exemplified by the varied scope and breadth of our projects in the region”.

The Mobility Pavilion tries to blur the line between the physical and digital worlds. Here the real and virtual worlds meet, interact and complement each other. It gleams in the sun with a steely futuristic sheen, resembling a spring with its facade design.

It is a multi-level building, shaped like a shamrock, surrounded by a neon area. The exposition is enormous: one can travel around the pavilion for a long time – through the entire history of technology development. The pavilion visitors move in time and space, meeting 9-meter figures of the greatest explorers who paved the way for progress and innovation. They learn about the prospects for the development of human civilisation and get acquainted with an incredible project where, with the help of artificial intelligence, big data, robotics, machine learning algorithms and autonomous transport, “smart” cities, focusing primarily on people, are created. The authors of the smart city project were inspired by the project of the future Masdar eco-city in Abu Dhabi, which will function exclusively on renewable energy sources.

The mobility pavilion was named “Alif” after the first letter of the Arabic alphabet, which symbolised “the beginning of progress and new horizons”. The pavilion will provide visitors with food for thought, demonstrating how mobility has been the driving force behind human development over the years, leading to off-Earth exploration.

The idea of mobility has been a stimulus for the development of humankind throughout its existence – from the first steps of man outside Africa to space flight and the creation of a digital world. The Arab Emirates have come a long way from the earth’s deserts to the deserts of Mars. Mobility changes the way of life, unites people, promotes understanding between different cultures, as well as the exchange of knowledge and ideas. After Expo 2020, the building will be converted for further use. This legacy will complement the Dubai World Central Masterplan, which is set to become the world’s largest logistics and transportation hub.

The Mobility Pavilion is equipped with the world’s largest passenger elevator, which can transport more than 160 people at a time. The pavilion also features a 330-metre track, going partly underground and partly along the street, showcasing advanced vehicles in action. And each of the building’s three cantilevered forms contains a gallery with an immersive exhibition designed by London-based consulting firm MET Studio.

The Opportunity Pavilion, designed by AGI Architects, was inspired by the rich history of city squares and their universal importance as a place for communication between people of different ages, languages and cultures. The pavilion, called Mission Possible, is a ribbed structure on three pillars with a green area and a restaurant in the centre. The architects of the bureau, according to tradition, use local climatic conditions as an energy resource for the pavilion – its southern part is equipped with solar panels that provide lighting inside.

And the roof expanding from the base provides extensive shade for visitors, creating a balance of light in the central lobby, where an oasis is located. A wide and gentle staircase leads visitors from the
The surfaces of Pavilion are clad with a local stone from the Hajar Mountains – which provides enough thermal mass to absorb the heat while the stone’s natural color reflects the sun.

Soaring over the courtyard, the Pavilion’s canopy accommodates more than 6,000 sqm of ultraefficient monocrystalline photovoltaic cells embedded in glass panels. The combination of the cell and the glass casing allow the building to harness solar energy while providing shade and daylighting to the visitors below. The experience in the courtyard is of being beneath a large shade tree with dappled light projecting onto the surfaces below. The form of the canopy works with the courtyard to direct cool air in, while simultaneously exhausting low-lying hot air through a chimney effect at the centre.

The result is a structure that combines the most advanced technology in solar capture and a clear understanding of the natural conditions of the site to actively generate energy while passively cooling and enhancing the experience of the visitor. After Expo 2020, the Sustainability Pavilion will be transforming into a science museum and expanding on its mission of exploring sustainable practices and the critical stewardship of our planet.

Expo 2020 lasts six months. After the exhibition is completed, the area will be transformed into a large-scale complex called District 2020.

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