

ARCHITECTURE

The 8 Most Architecturally Significant Pavilions of Expo 2020

From palm-treed solar panels to structures featuring performances of light, these pavilions are the ones to watch during this universal exposition, which opens to the world on October 1

By Rebecca Anne Proctor
May 24, 2021

Surpassing the myriad of challenges posed by the coronavirus, at long last the greatly anticipated Expo 2020, the universal exposition hosted by Dubai, in the United Arab Emirates, is slated to open to the public on October 1, 2021—just under one year later than its originally scheduled opening date of October 20, 2020. Expo 2020—the most recent world Expo was hosted by Milan in 2015—is dedicated to the theme of “Connecting Minds, Creating the Future,” emphasizing the importance of generating sustainable solutions to the globe’s current slew of environmental woes. Expo 2020 proposes cross-cultural collaboration as a means to tackle the world’s problems and move into the next stage of existence where technology, sustainability, craft, and cultural heritage hold hands. To that end, Dubai’s Expo has divided the event into the subthemes of Opportunity, Mobility and Sustainability—key drivers, it believes, of the future of global progress.

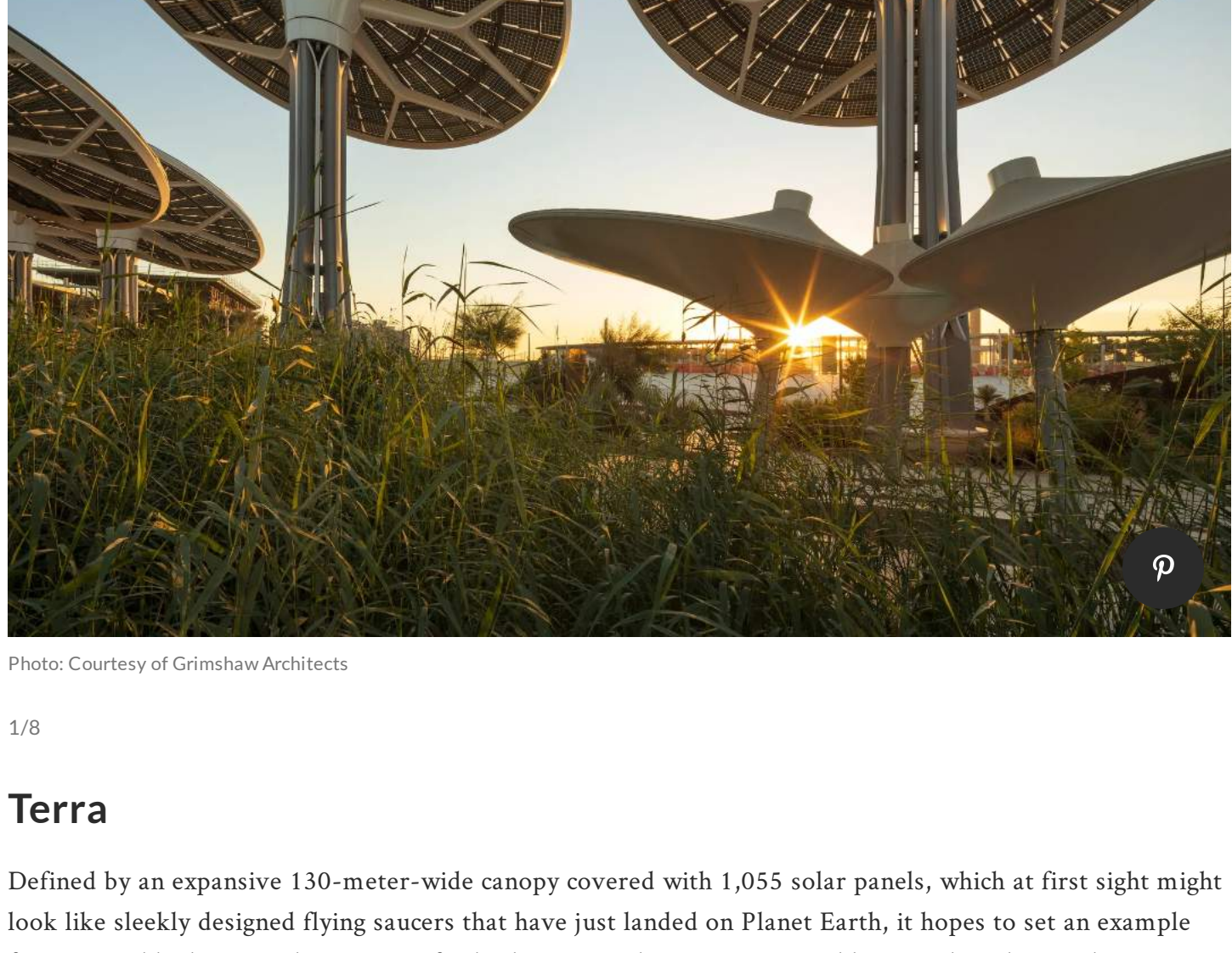


Photo: Courtesy of Grimshaw Architects

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Terra

Defined by an expansive 130-meter-wide canopy covered with 1,055 solar panels, which at first sight might look like sleekly designed flying saucers that have just landed on Planet Earth, it hopes to set an example for sustainable design and is net zero for both water and energy. Designed by U.K.-based Grimshaw Architects, the panels on the sand-colored canopy of Terra, a title derived from the Latin word for “earth,” generate four gigawatts of alternative energy per year—enough electricity to charge over 900,000 mobile phones. Terra, which was made for the hefty price tag of \$272 million, is designed to produce as much energy as it takes in. The panels, which could also be viewed as metaphorical futuristic palm trees, rise up from the desert sands throughout Expo 2020’s extensive area, which cover 438 hectares (1,082 acres).



Photo: Courtesy of the Saudi Arabian Pavilion

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Saudi Arabia

The Kingdom of Saudi Arabia desires to showcase its ambitious drive and new forward-thinking vision through the architecture of its pavilion, which features an unfolding facade that opens like a large window looking into the future. Located in the Opportunity District, at 13,000 square meters in size—the equivalent of two soccer pitches—it is second largest only to the pavilion of the United Arab Emirates. Designed by Boris Mika Associates, a pathway will guide visitors through exhibition displays that reveal what the country presents as its openness to the outside world—no business and tourists alike—as well as its desire to “collaborate with countries to create a better future for everyone,” according to an opening release. The displays, educative in scope, will guide visitors through Saudi traditions and heritage as well as its present creativity and energetic drive of its future ambitions.

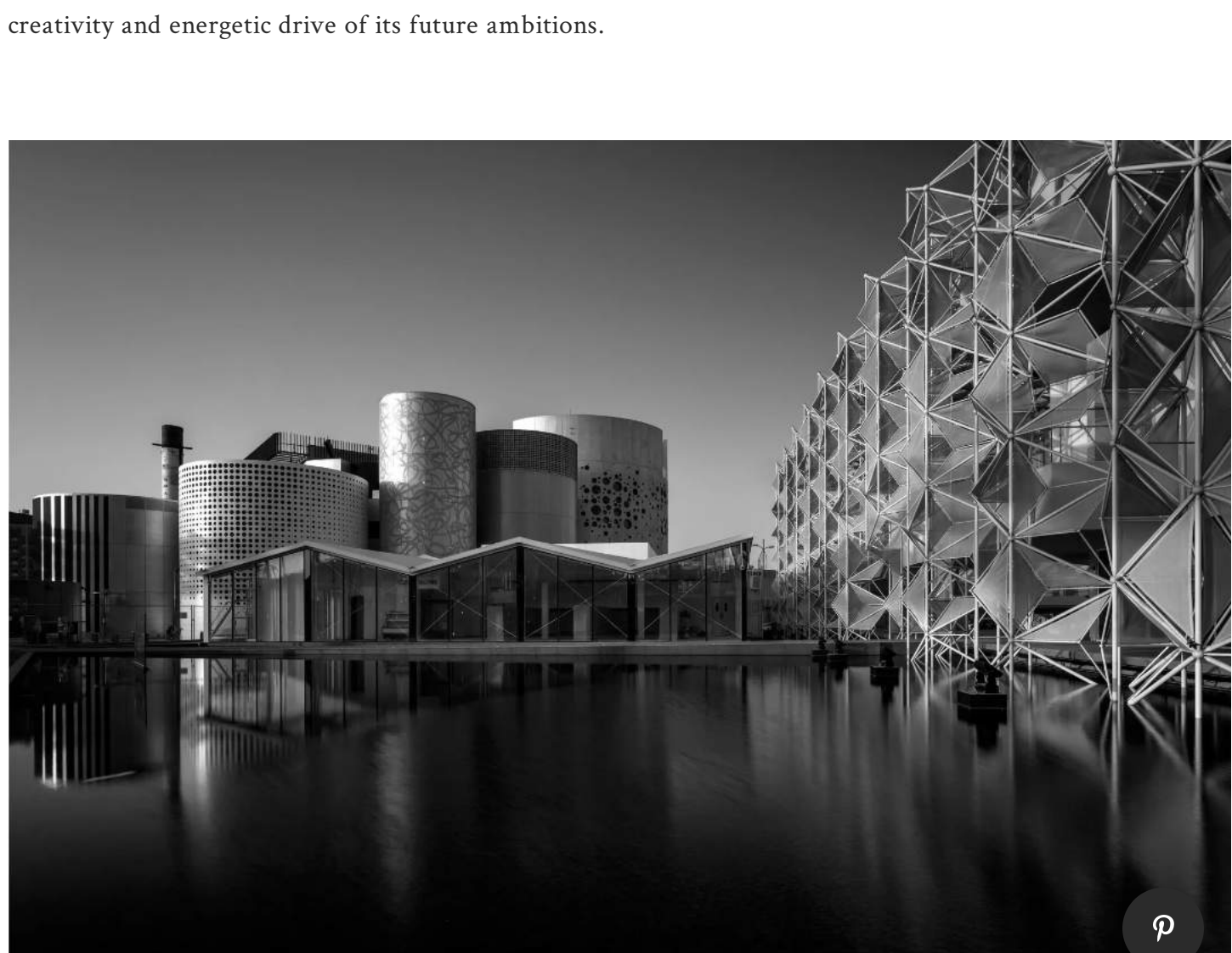


Photo: Courtesy of ENOC

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ENOC

The pavilion of the ENOC Group, the official integrated energy partner of Expo 2020 Dubai, takes its inspiration from the circular forms of oil storage tanks. Made using 700 tons of steel in an effort to minimize waste, environmental impact, and promote sustainability, the structure has five unique structures, which include four “houses” each representative of a different theme: Discovery, offering an explanation of what energy is; Harness, narrating what energy enables; Collaborate, explaining what energy needs to exist, and Reimagine, showcasing what energy promises in the future.

The pavilion’s construction supports the sustainable message it relays. It includes the installation of a mixed-mode functional design for HVAC systems that minimizes its energy consumption by 20.1% lower than the ASHRAE 90.1% benchmark code assessment for commercial building energy codes in the United Arab Emirates. According to ENOC, the use of the steel construction will allow for the material to be reused and returned to its original state when the Expo finishes in 2022.

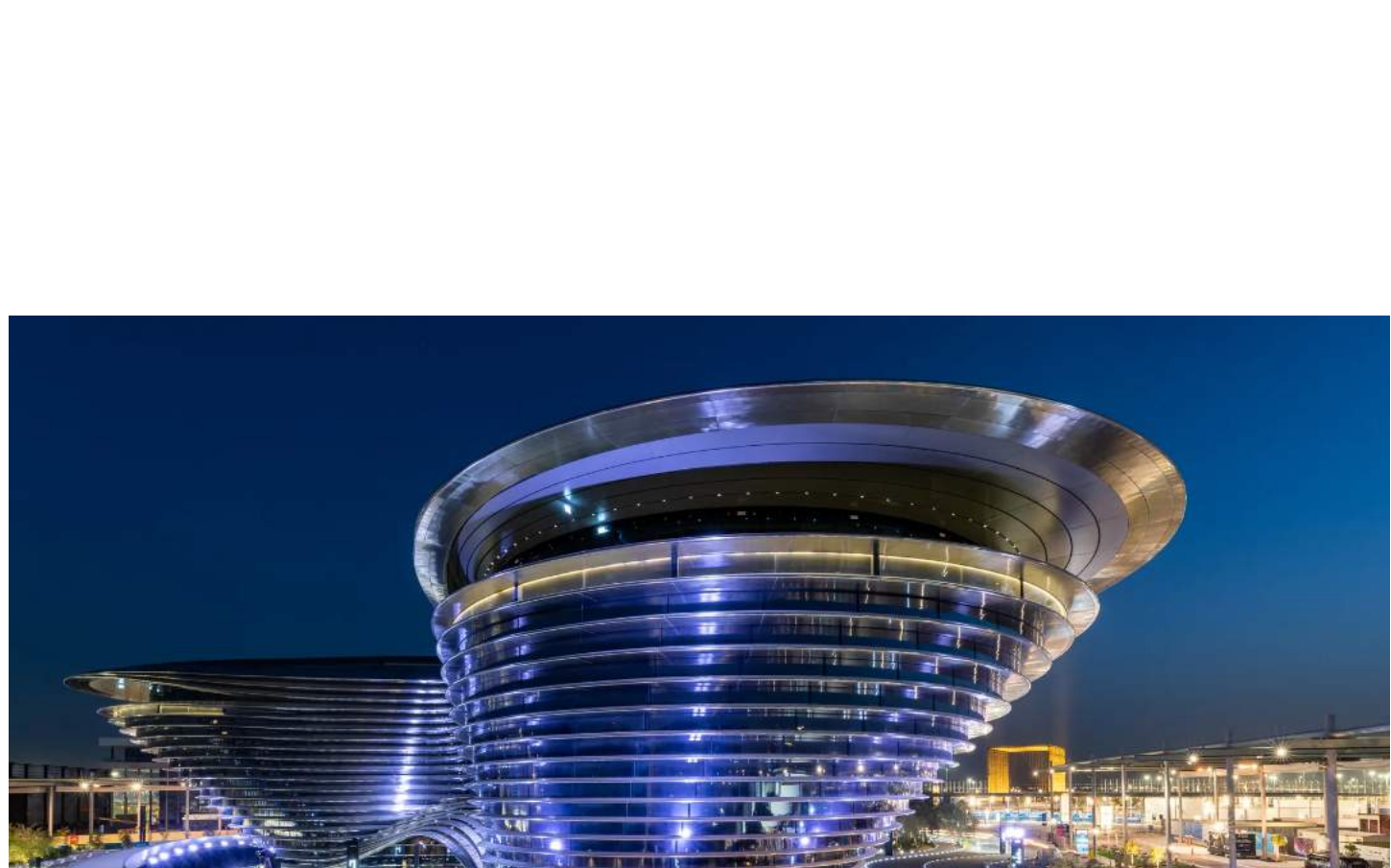


Photo: Courtesy of Foster + Partners/Sureesh Sathikaravan

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Alif — The Mobility Pavilion

The emotive design of the Foster + Partners–designed Alif — The Mobility Pavilion features an impressive facade of a series of stainless-steel fins that wrap around the building like a blanket. The roof also showcases a range of both photovoltaic and solar hot panels. One of Expo’s three signature structures based on the subthemes of mobility, sustainability, and opportunity, inside the building is a fairground of sorts with demonstration areas where visitors can discover the “historical giants of mobility” whose innovative technology helped to lead the world to the technological advancements of today. Of note is the open-air, 330-meter track where visitors can behold firsthand new cutting-edge mobility devices put into action. The pavilion’s aim is to break down the divide between the physical and digital worlds and show how mobility continues to influence the way individuals live, connect, and exchange ideas with other cultures.

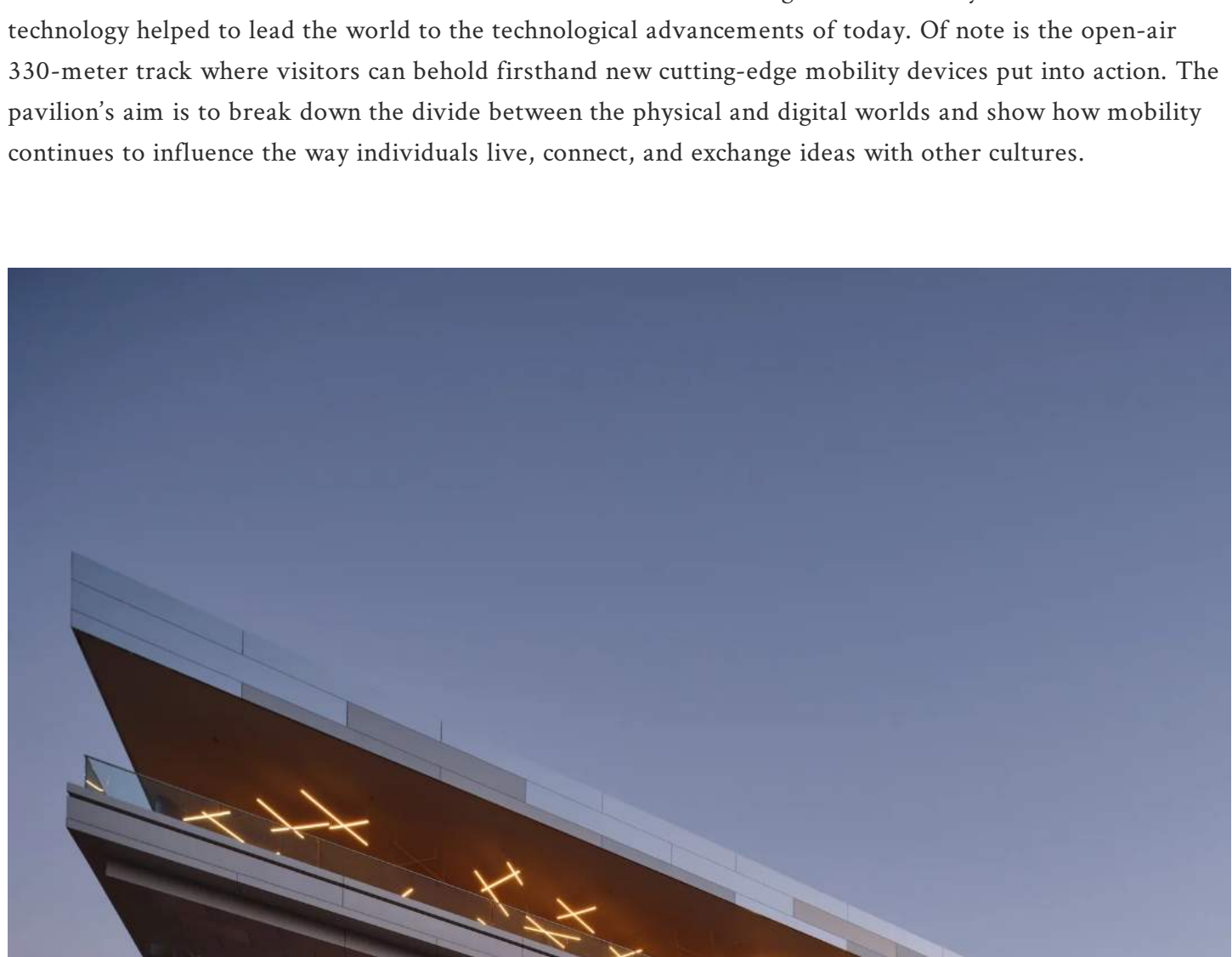


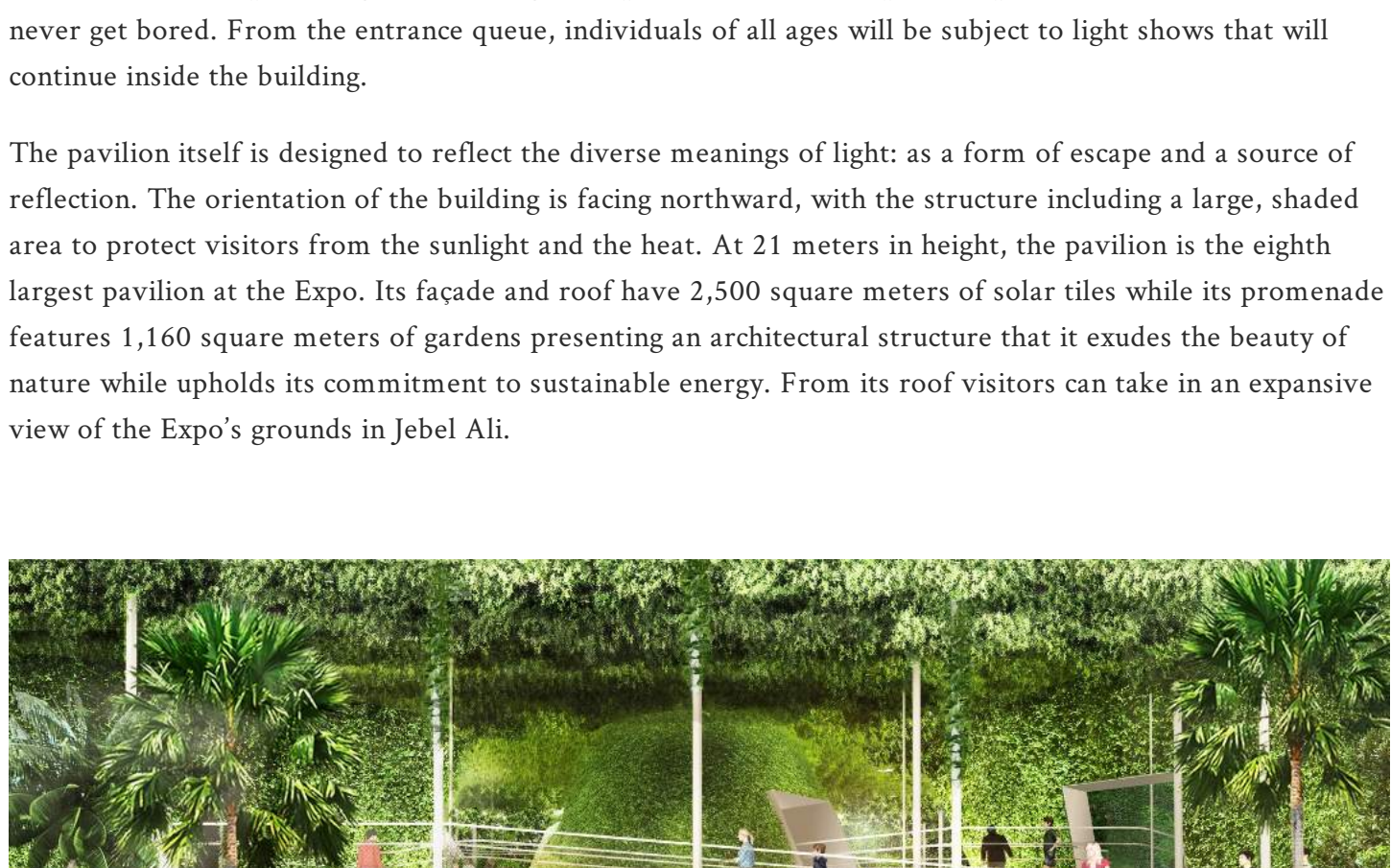
Photo: Courtesy of the French Pavilion

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French Pavilion

France has a long history of successful world expos. The Eiffel Tower, for example, was built as the entrance to the 1889 Paris World Expo. For Dubai’s Expo 2020, France has titled its pavilion “Lumière, Lumières”—translated as “Light, Enlightenment”—a phrase chosen by the French government and which is dedicated to the meaning and use of light in all its forms—as a source of inspiration, creativity, knowledge, and means to connect with other cultures. Designed by the Atelier du Prado and Celnikier & Grubli architectural firms and located in the Mobility District, the pavilion is housed in a rectangular structure of three floors and built according to the three pillars of bioclimatic: controlling solar gains, limiting the use of fossil fuels, and providing an insulating waterproof exterior. This pavilion promises that its visitors will never get bored. From the entrance queue, individuals of all ages will be subject to light shows that will continue inside the building.

The pavilion itself is designed to reflect the diverse meanings of light: as a form of escape and a source of reflection. The orientation of the building is facing northward, with the structure including a large, shaded area to protect visitors from the sunlight and the heat. At 21 meters in height, the pavilion is the eighth largest pavilion at the Expo. Its facade and roof have 2,500 square meters of solar tiles while its promenade features 1,160 square meters of gardens presenting an architectural structure that it exudes the beauty of nature while upholds its commitment to sustainable energy. From its roof visitors can take in an expansive view of the Expo’s grounds in Jebel Ali.



Rendering courtesy of the Singapore Pavilion

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Singapore

Imagine stepping inside a large building covered in gardens. That’s exactly the experience that Singapore’s Pavilion for Expo 2020 lends. The net-zero energy pavilion designed by WOHA explores an individual’s journey toward the importance of livable structures made in collaboration with nature, which can be seen as a form of resilience against the dire effects of climate change. The pavilion also reflects Singapore’s reputation as a “city in a garden” and reveals itself in the form of a three-dimensional space flanked by evergreen forest trees and topped with a magnificent Hanging Garden. As visitors meander through the space, they’ll brush past the nine-meter-tall Garden Cones—another nod to Singapore’s green landscape—that are draped in greenery and form the centerpiece of the pavilion. Inside is a series of exhibitions showcasing Singapore’s natural heritage, urban solutions, and its myriad species of orchids. When visitors journey atop the Garden Cones, they will find a multipurpose deck sheltered by a solar canopy and cooled with a continuous mist.

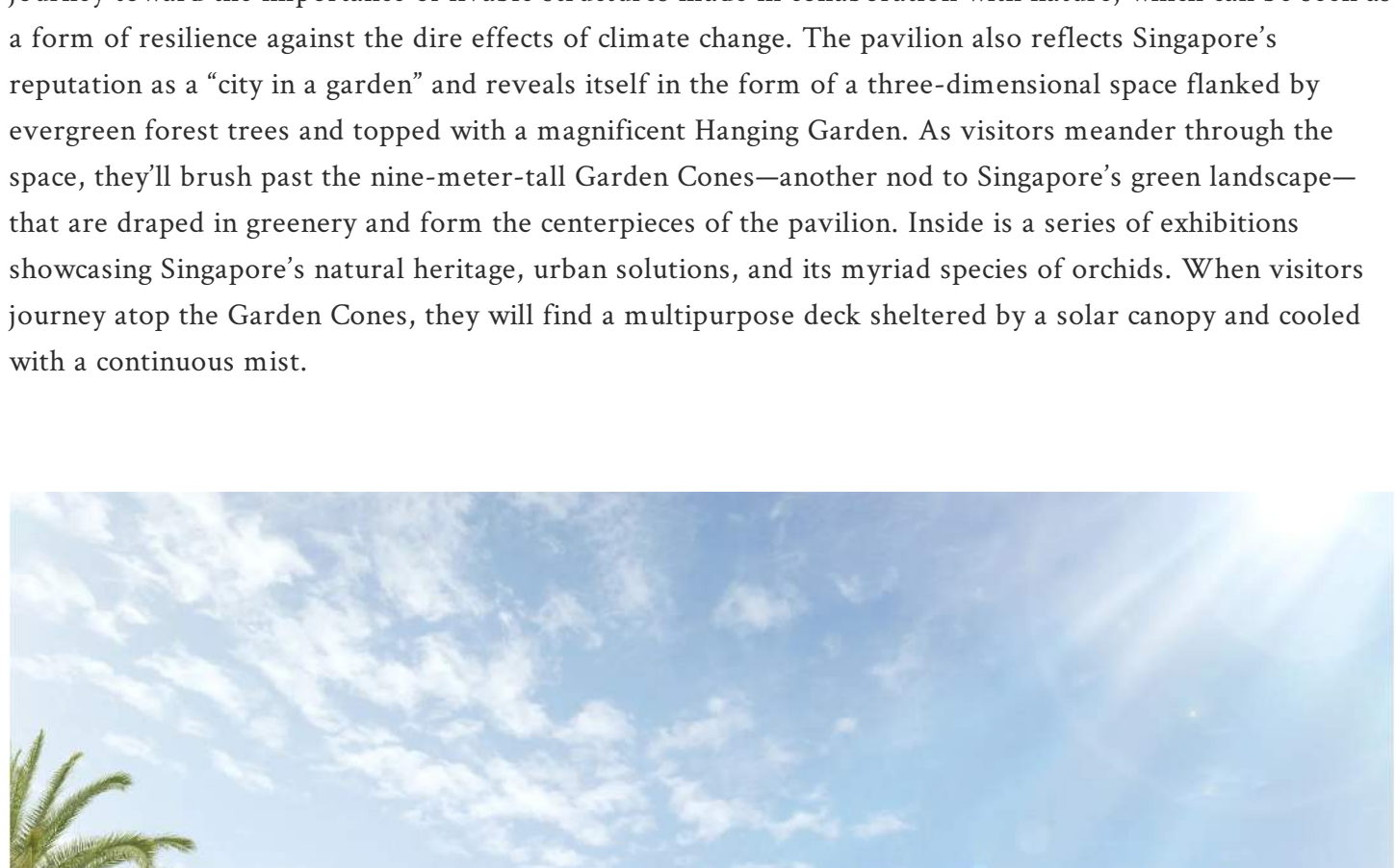


Photo: Courtesy of the Japanese Pavilion

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Japan

A breathtaking structure that beams light from its immersive high-tech three-dimensional facade, the Japan Pavilion reflects a combination of traditional arabesque and Aomori patterns—Japanese traditional Origami shapes symbolizing the respect shown to others through the Japanese art of Origami gift wrapping. Located in the Opportunity District, designed by Yoko Nagayama/NTT Facilities and constructed by Ohayashi Middle East, the building pays reverence to Arabic design and culture. In many ways its impressive facade also nods also to the intricacy of mashrabiyas, an architectural element characteristic of traditional architecture in the Islamic art, defined by meticulous latticework, and which has offered effective protection against intense sunlight in the Middle East for several centuries. The pavilion also provides a natural cooling system that incorporates traditional Arabic and Japanese techniques, featuring an expanse of water in front of the Pavilion that cools the surroundings and reflects back on its three-dimensional facade. Inside a restaurant will encompass both Japanese and Arabic references.



Photo: Courtesy of Iranian Pavilion

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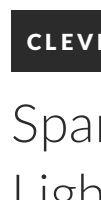
Iran

Inspired by *One Thousand and One Nights*, the famed collection of Middle Eastern folk tales compiled during the Islamic Golden Age and also a seminal piece of literature in Persian culture, Iran’s pavilion, designed by Iranian architectural firm Shift Process Practice, consists of several spatial pockets in a field instead of a monolithic building, each functioning as an agent to provide a part of Iran’s contemporary history. Each structural pocket consists of a blue box that is then wrapped in a curtain of bronze-colored beads—a metaphor telling of the contrast between the heavens and the earth. Rather than a solid structure, Iran’s pavilion is a rhizomatic network of connectors offering different narratives of contemporary Iranian history. Yet the narrative is ambiguous, in some ways like the tumultuous history of the country itself. It is contingent upon the specific path the visitor decides to take that will reflect its own version of Iran’s modern-day history. Reflective of the country’s unfolding narrative is the work of Iranian artist Aref Montazeri that will be on view in one of the boxes. His work, which uses the medium of mirrors and distorts their reflection through his sculptural forms, is currently on view in Lella Heller Gallery in Dubai.

Expo 2020 in Dubai runs from 1st October 2021 until 31 March 2022

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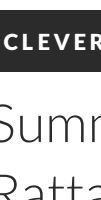
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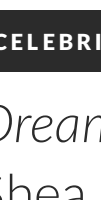
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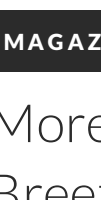
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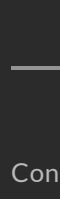
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