



archi-tectonics' hybrid stadium in hangzhou takes cues from the chinese cong

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ARCHI-TECTONICS COMPLETES MAIN STADIUM IN HANGZHOU

Archi-Tectonics has recently finished construction on the Hybrid Main Stadium, a focal point within Hangzhou Asian Games 2023 Park, featuring a seating capacity of 5,000. Located at the park's southern entrance and connected by two bridges, this 35,000 square meter structure embodies the region's heritage, taking inspiration from the Cong — an ancient Jade-stone artifact with a distinctive square tube and circular bore shape. *'The Cong has a sense of mystery that we channeled in our design,' describes the team. 'The intersections and textures announce that this building stands apart from the others.'*

The stadium's distinctive design features intersecting ellipses that facilitate fluid connections between its interior and exterior spaces. The construction prioritizes sustainable practices, employing renewable or recycled materials

such as repurposed brass for the external facade and bamboo cladding for the stadium's interior. The use of brass, in particular, creates a shimmering fish scale-like appearance, adding a sense of texture and movement to the facade while also contributing to the sustainability of the design.



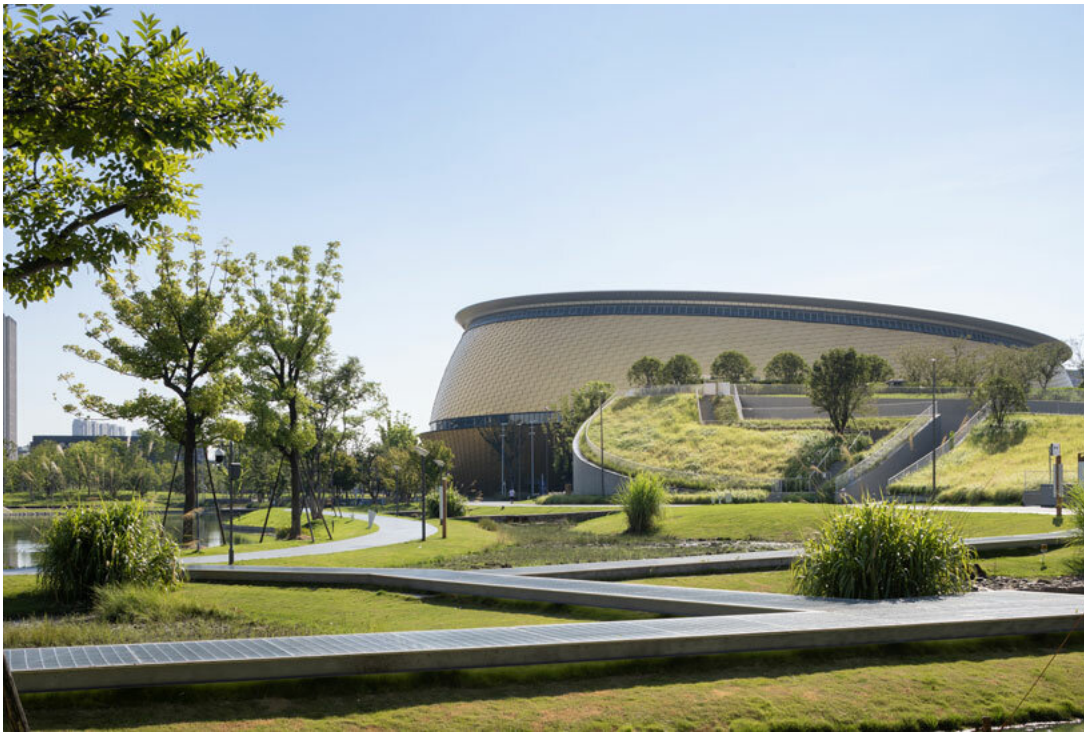
all images by SFAP Shanghai

MULTI-FUNCTIONAL HYBRID STADIUM DOUBLES AS A CULTURAL HUB

Winka Dubbeldam, Founding Partner of *Archi-Tectonics*, aimed to ensure the venue would become a lasting addition to Hangzhou's urban landscape, serving sporting events and cultural purposes beyond *the Asian Games*. *'We designed the Hybrid Stadium as both an icon for the games and an active participant in Hangzhou's urban landscape that would generate new activities and uses once the games end.'* The stadium's disc-shaped geometry stands out with its distinctive, asymmetrical shape, accommodating both arena and amphitheater seating arrangements, allowing it to adapt from sports events to performance-centered configurations. Its double-curved inner bowl is adorned with bamboo cladding and a skylight, blending modern design with traditional materials. Compared to conventional circular stadiums, this hybrid design features ramps and stairs that create an interconnected environment, allowing smooth transitions between spaces, all the while connecting the lively city with the inward-looking arena. The lobby ramps efficiently guide visitors to their seats, creating a fluid circulation path. *'Most stadiums are on-liners; circular buildings that enclose rectangular playing fields,'* explains Dubbeldam. *'The inner and outer rings are discrete. We found that there is no ideal adaptability in that model and designed a hybrid instead.'*

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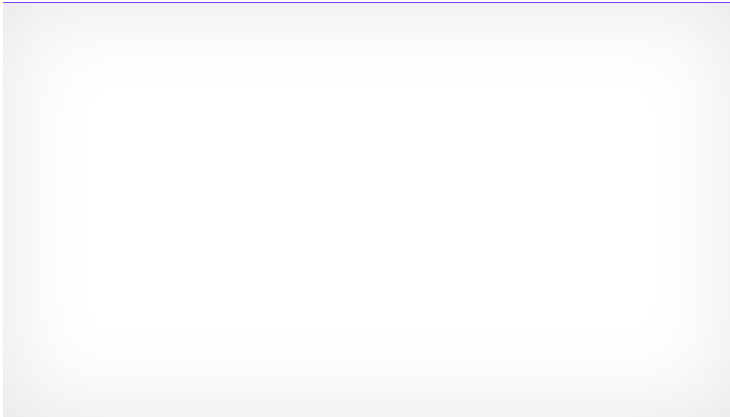




the structure takes shape as a highly adaptable set of volumes that can convert to event space after the games

Moreover, the stadium is not limited to being just a sports venue; it integrates various secondary program areas such as a sports health center, restaurants, and VIP lounges, resulting in a multi-dimensional visitor experience and making it an events and entertainment destination. *'Everything followed from the decision to design the building as Hybrid,' as stated by the team. 'What was at first a provocative proposal to the client: to create a hybrid and to optimize the building for adaptability, ultimately became the driving logic of the design.'*

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One of the architectural highlights is the Suspendome roof, which provides column-free spaces in the lobby and allows for natural light and ventilation. The roof's design facilitates the use of natural daylight through a large oculus and a continuous band of operable windows. The stadium also incorporates sustainable features, including water cooling via wetlands, achieving the 'Green Building Evaluation Label 3 Star' (GBEL 3 Star) the highest level of sustainability in China and equivalent to LEED Platinum. *'The building acts as an organic body, sensing the need for natural ventilation, allowing natural daylight, and the whole building is water-cooled via the new wetlands,'* says Winka Dubbeldam.

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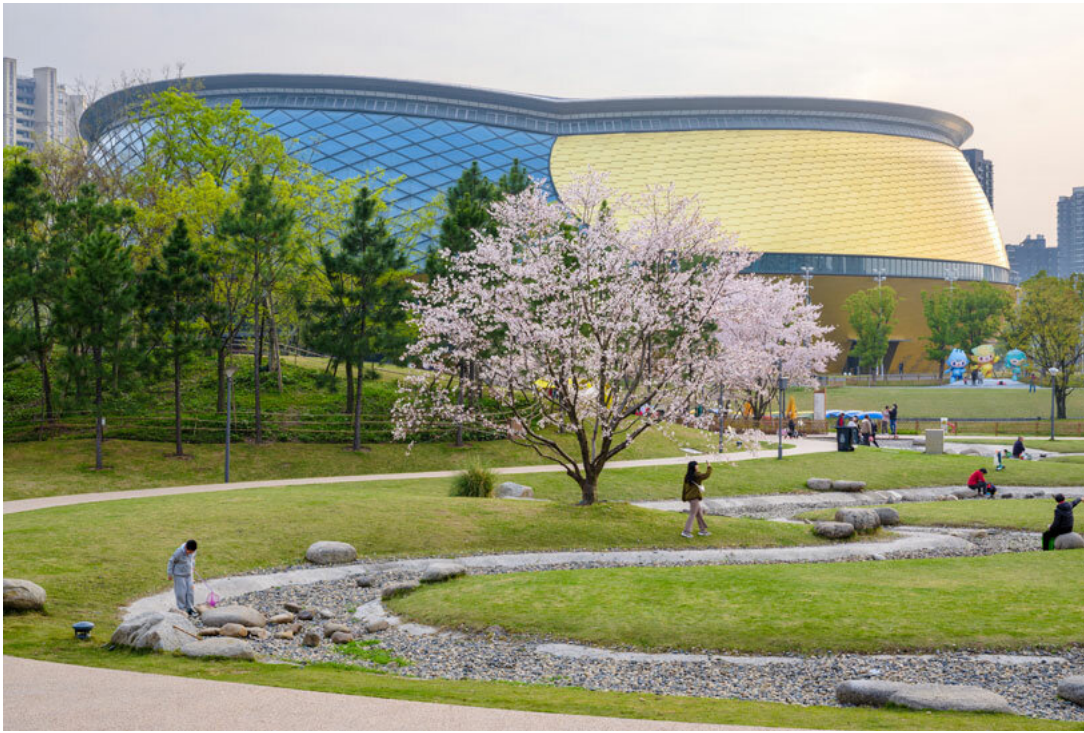


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two intersecting ellipses with overlapping areas enable transitions between the interior and exterior spaces

FOCUSING ON COST-EFFICIENCY AND SUSTAINABILITY

Archi-Tectonics' efficient use of materials and optimized module dimensions resulted in cost savings, demonstrating a commitment to both design and sustainability. *'We achieved an extraordinarily ambitious design on budget by working smarter, not by cutting corners,' says the architects. 'We used cost-cutting measures like planar glass and aluminum fins to express the design intent fully.'* The design adheres to regulations, ensuring natural lighting and ventilation in primary public areas, including the central stadium section. The building is seamlessly integrated into an Eco-Park, aligning with Sponge City design principles to conserve, collect, and purify stormwater for reuse within the stadium.

The efficient use of Building Information Modeling (BIM), in collaboration with structural engineers and local fabricators, led to a design that minimized the need for unique modules. This approach facilitated smooth coordination with international fabricators and construction teams. By fully integrating BIM and optimizing the process, Archi-Tectonics and their team achieved substantial savings of 1,130 tons of steel and accelerated the construction timeline by 20%, enabling the building to be ready for inauguration a year ahead of the Asian Games.



vola

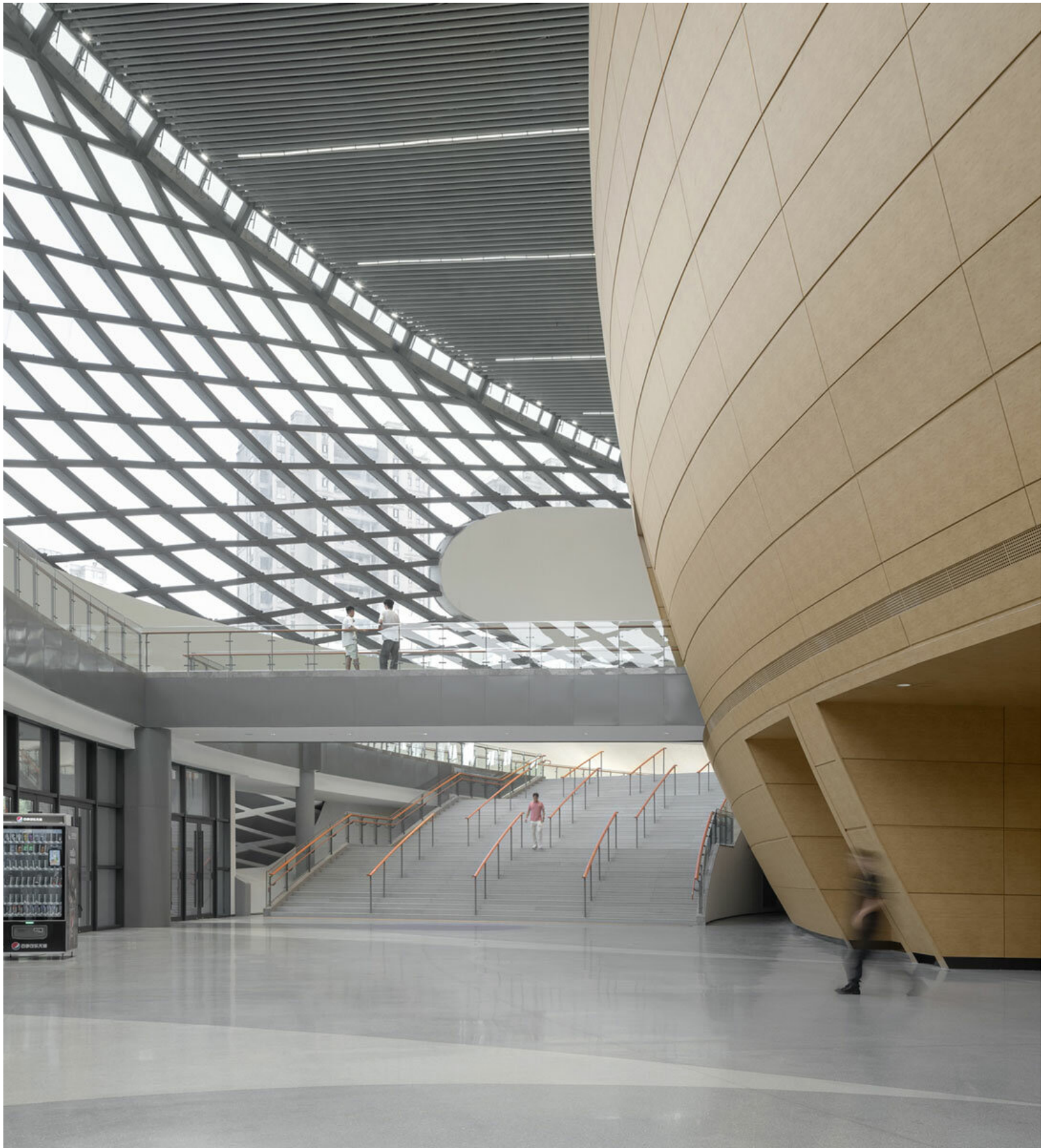


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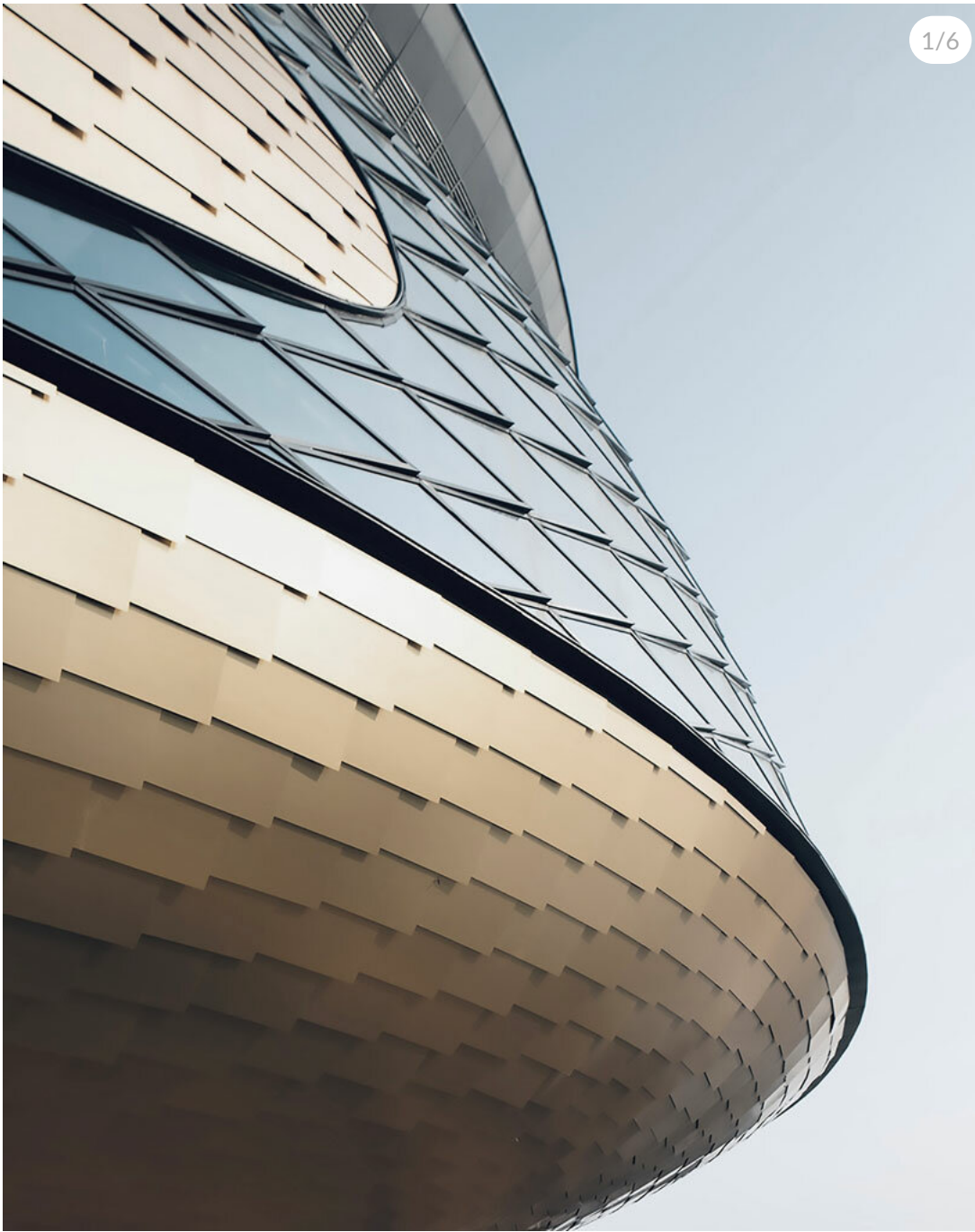


the exterior features a shimmering fish scale-inspired aesthetic that introduces texture and dynamism to the facade



the Suspendome roof forms column-free spaces in the lobby and lets ample daylight flood the interior

a cultural hub within Hangzhou Asian Games 2023 Park



an arrangement of small aluminum triangles facilitates the transition from the planar glass to the double-curved diagrid

project info:

architects: Archi-Tectonics NYC, LLC | @architectonics2129

LDI (local architect): Zhejiang Province Institute Of Architectural Design And Research (ZIAD)

structural engineer: Thornton Tomasetti Engineers

landscape design: !Melk Landscape

transport & egress planning: Mobility in Chain traffic engineers

construction drawing design consultation: Powerchina Huadong Engineering Corporation Limited (HDEC)

general contractor: China Power Construction Group East China Survey and Design Research Institute Co., Ltd.

construction unit: Zhejiang Xinsheng Construction Group Co., Ltd.

location: Hangzhou, China

built area: 35,000 sqm/ 5000 seats

date: winning of competition May 2018

completion: October 2021, opening September 23, 2023

photography: SFAP Shanghai

christina petridou | designboom

oct 16, 2023

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interview with winka dubbeldam, founder of archi-tectonics

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black and white abstract forms by x+living drip off deji art museum's exhibition walls

chinese fir and local dali wood outline the interior of terraced house by atlas studio

epiphany architects' public installation in chengdu undulates like a large urban petal

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weaving six gardens into a lush oasis

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meandering paths and organically shaped flowerbeds knit together the park's elements, including its central greenhouse.

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wallmakers reinvents india's traditional kerala roof, introducing skylights that double as amphitheater seating.

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(divine comedy, dante alighieri)

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