

Tallest Building in China Breaks Ground

Design Completes Super-Tall District, Showcases Sustainable Public Space

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SHANGHAI—Groundbreaking ceremonies held today mark the start of construction on Shanghai Tower. The 632-meter building designed by Gensler, a leading global architectural design firm, advances sustainable design strategies and gives prominence to public spaces. The Shanghai Tower Construction & Development Co., Ltd., is the project's developer. Thornton Tomasetti structural engineers, Cosentini Associates mechanical, electrical and plumbing engineers and the Architectural Design and Research Institute of Tongji University as the Local Design Institute will support Gensler. The development is slated for completion in 2014.

Shanghai Tower is located in the Lujiazui Finance and Trade Zone, an area of Shanghai that was farmland eighteen years ago. The district is poised to become China's first super-tall district, as Shanghai Tower rises to complete a trio of towers including the adjacent Jin Mao Tower and Shanghai World Financial Center (WFC). Together, these three will form a new icon on Shanghai's skyline. While the design of the Jin Mao Tower pays homage to China's past, and the WFC's design signifies China's recent economic growth, Shanghai Tower's design is a beacon of China's future.

"This tower is symbolic of a nation whose future is filled with limitless opportunities," said Qingwei Kong, President of Shanghai Tower Construction & Development Co., Ltd. "With Shanghai Tower we celebrate not only China's economic success and increasing connection to the global community, but also our company's commitment to developing properties that demonstrate the highest, noblest and most exquisite design achievements possible."

Shanghai Tower will house Class-A office space, retail, a luxury hotel and cultural venues. The uppermost floors will feature the world's highest non-enclosed observation deck. The tower's podium building will offer a high-end retail environment with a major event space. Below-grade facilities include retail, connections to the Shanghai Metro and three floors of parking.

"We hope Shanghai Tower inspires new ideas about what sustainable tall buildings can be," said Art Gensler, FAIA, Chairman of Gensler. "We've lined the perimeter of the tower, top to bottom, with public spaces, and we've integrated strategic environmental thinking into every move. The tower is a stage that comes to life through the presence of people."

Tower Composition

Shanghai Tower is organized as nine cylindrical buildings stacked one atop another. The inner layer of the double-skin façade encloses the stacked buildings, while a triangular exterior layer creates the second skin, or building envelope, which gently rotates as it rises. The spaces between the two façade layers create nine atrium sky gardens. Much like plazas and civic squares in traditional cities, the sky atria offer spaces within Shanghai Tower for interaction

and community with restaurants, cafés, coffee shops and convenience stores, as well as lush landscaping.

With sky gardens lining the tower's perimeter, Shanghai Tower is literally wrapped in public spaces. Both interior and exterior skins are transparent, establishing a visual connection between the tower's interiors and Shanghai's urban fabric. At night the building's glowing translucent form further highlights interior public spaces. On the ground level, retail and event spaces, in tandem with abundant entrances on the site, further the physical and visual connections between the tower and the city.

Sustainable Strategies

In accordance with the goals of the Shanghai Tower Construction and Development Co., Ltd., the tower will be one of the most sustainable tall buildings in the world. Working closely with Thornton Tomasetti and Cosentini, Gensler adopted a fully integrated design approach, ensuring all design decisions uphold a sustainable intent.

The façade's taper, texture and asymmetry work in partnership to reduce wind loads on the building by 24 percent, offering considerable savings overall in both building materials and construction costs. In addition, the building's spiraling parapet collects rainwater, which is used for the tower's heating and air conditioning systems. Wind turbines located directly beneath the parapet generate on-site power. The landscaped atria improve indoor air quality and create comfortable places for people to linger. Shanghai Tower's owners aim to register for a high level of building certification from the China Green Building Committee and the U.S. Green Building Council.

About Gensler

Gensler is a global architectural design, planning, and strategic consulting firm with more than 2800 professionals networked across 31 offices on five continents. Consistently ranked by U.S. and international industry surveys as the leading architecture and interior design firm, Gensler leverages its deep resources and diverse expertise to develop design solutions for industries across the globe. Since 1965, Gensler has collaborated with clients to create environments that enhance organizational performance, achieve measurable business goals, and enrich people and communities. For its longstanding commitment to the advancement of sustainable design, Gensler received the Leadership Award from the U.S. Green Building Council in 2005. Gensler began work in China in the 1980s and currently has a staff of more than 122 professionals (80 of whom are Chinese nationals) working in its Shanghai and Beijing offices. To augment local staff, designers from Chicago, Los Angeles, Houston, New York, Washington D.C. and San Francisco joined Chinese colleagues to design the project in Shanghai.

About The Architectural Design and Research Institute of Tongji University

The Architectural Design and Research Institute of Tongji University, founded in 1958, is one of the leading design groups in China offering a comprehensive range of disciplines. The ADRI holds design certificates issued by the State Ministry of Construction for China in architecture, municipal engineering, bridge engineering, highway engineering, geotechnical investigation, geology, landscaping, environmental engineering, civil air defense and cultural relic protection. The ADRI also holds an Engineering Consulting Certificate issued by the State Planning Committee. The Design Institute has developed its strength in design, manpower and technology through its 50 years of experience. It employs 1700 professionals including 146 State First Class Registered Architects and 159 State First Class Registered Structural Engineers. It has won nearly 300 prizes for its design work over the past 20 years.

Affiliated with a well known university, the Design Institute has a tradition in architectural education and has successfully collaborated with many well-known design firms from the United States, Canada, Germany, France and Spain.

About Shanghai Tower Construction & Development Co., Ltd.

Formed on December 5, 2007, the Shanghai Tower Construction & Development Co., Ltd., represents an equity partnership between the Shanghai Chengtou Corp., the Lujiazui Finance & Trade Zone Development Co., Ltd., and the Shanghai Construction Group. These three shareholders are jointly funding the development and construction of Shanghai Tower with registered capital of RMB 5.4 billion.

Driven to pursue the “highest, noblest and most exquisite” design and development objectives for Shanghai Tower, the corporation is leveraging more than 10 years of construction management and market expertise to deliver a landmark building worthy of Shanghai’s place on the world stage.

About Thornton Tomasetti

Thornton Tomasetti has a reputation for technical expertise in optimizing building systems to reduce costs, simplify erection procedures and speed up construction. We are internationally recognized for our ability to innovate in order to meet a project’s special requirements, whether financial or functional. Thornton Tomasetti provides engineering services to clients worldwide on buildings of all sizes and complexity. From the tallest buildings and the longest spans, to innovative building systems and materials, the firm is committed to creating the best solutions through its technical ingenuity, pursuit of excellence, and responsiveness to client needs.

Founded in 1956, Thornton Tomasetti is a 650-person organization of engineers and architects collaborating from offices across the United States and in Shanghai, Hong Kong, London, Moscow and the Middle East.

About Cosentini

Cosentini Associates is an international consulting engineering firm specializing in mechanical, electrical, sanitary and fire protection engineering, as well as LEED design and facilitation, and specialty information technologies, audiovisual, security and lighting design. The firm has been in continuous practice since 1952 and employs over 400 professionals in offices throughout the world. Working closely with leading architects, Cosentini has participated in the design of many of the world's most innovative and celebrated buildings of the past several decades. The firm enjoys a global reputation for its ability to find innovative solutions to complex technical problems and to engineer environments that exceed clients' expectations for energy efficiency, first and operating costs and system reliability. Cosentini was one of the first consulting firms in the country to join the U.S. Green Building Council; the firm's commitment to sustainable design is evidenced in a portfolio of over 50 LEED-certified projects and over 100 new projects in the process of obtaining LEED certification.

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Facts

Project Name:

Shanghai Tower

Groundbreaking:

November 29, 2008

Anticipated Completion:

2014

Owner/Developer:Shanghai Tower Construction
and Development Co., Ltd.

Design Architect:

Gensler

Local Design Institute:The Architectural Design &
Research Institute of Tongji
University

Structural Engineers:

Thornton Tomasetti

MEP Engineers:

Cosentini Associates

Landscape Architect:

SWA

Description:

Shanghai Tower will be a 632-meter, super-tall tower sited in the heart of Shanghai's Lujiazui Finance and Trade Zone, adjacent to the Jin Mao Tower and Shanghai World Financial Center. As the newest icon on the Shanghai skyline, Shanghai Tower's distinctive transparent spiral form will showcase cutting-edge sustainable strategies and public spaces that wrap its perimeter from crown to base.

Project Information:

Site

Location: Lujiazui Finance and Trade Zone, Pudong district, Shanghai, China
Area: 30,370 square meters

Tower

Height: 632 meters
Stories: 128 occupied floors
Area: 380,000 square meters above grade
170,000 square meters below grade
Program: Office, luxury hotel, entertainment, retail and cultural venues

Podium

Height: 38 meters
Stories: 5 stories high
Area: 44,000 square meters
Program: Luxury retail, office, hotel lobbies, bank, restaurant, conference, meeting and banquet functions. Lower levels will house retail, parking, service and MEP functions.

Site and Context

- Shanghai Tower is sited in the Lujiazui Finance and Trade Zone of Pudong, a major financial and commercial hub of China. Eighteen years ago, Lujiazui was predominantly farmland. Today, it is set to become a premiere global financial center.
- Shanghai Tower completes a trio of buildings that form China's first super-tall district. While the Jin Mao Tower pays homage to China's past and the Shanghai World Financial Center signifies China's recent economic success, Shanghai Tower signifies the boundless possibilities of China's future.
- The tower is situated in a public park with an open civic plaza.



Tower Composition

- As a new Shanghai skyline icon, Shanghai Tower presents a constantly changing façade from all directions.
- The building's form is a metaphor for the spirit and philosophy of China. Referencing the spiral as a symbol of the cosmos in Chinese culture, the tower's form symbolizes China's connection with the world, space and time. Additionally, the tower's triangular plan relates to the site's harmonious trio of buildings.
- Shanghai Tower is organized internally as a series of nine cylindrical buildings stacked one atop the other, with nine atria encircling them. The inner layer of the tower's double-skin façade encloses the vertically arranged interior buildings, while a triangular exterior layer creates the second skin or building envelope. The spaces between the building's external façade and its internal façade create the atria.
- With sky gardens lining the building's perimeter, Shanghai Tower is literally wrapped in public spaces. Both interior and exterior skins are transparent, establishing a visual connection between the tower's interior spaces and Shanghai's urban fabric. At night the building's glowing translucent form further joins city and tower.
- As plazas and civic squares create gathering spaces in traditional cities, the nine atria offer gathering spaces within Shanghai Tower.
- On the ground level, retail and event spaces in tandem with abundant entrances on the site further the physical and visual connections between the tower and city.



Sustainable Highlights

- The twisting, asymmetrical shape of the tower reduces wind loads on the building by 24 percent, reducing the structural load on the building.
- Innovative skin technology is one of many sustainable design and renewable energy systems in the tower. The circular inner glass skin uses 14 percent less glass than a square building of the same area, and minimizes energy consumption.
- The double-skin façade's vertical atria create thermal buffer zones. It also improves indoor air quality while creating desirable places for people to linger. These public amenity floors also reduce the number of vertical trips each building occupant must make.
- The building's spiraling parapet collects rainwater, which is used for the tower's heating and air conditioning systems. The spiral shape facilitates vortex shedding and creates an asymmetrical surface to reduce wind loads on the building. Wind turbines located directly beneath the parapet generate on-site power.
- Shanghai Tower's owners aim to register for a high level of building certification from the China Green Building Committee and the US Green Building Council.



Retail Podium

- The retail podium is a multi-story, luxury retail experience that incorporates an ambitious mix of premium luxury brand flagships, one-of-a-kind specialty retailers, and high-concept dining.
- The dynamic metropolitan feel of the retail podium is designed to enhance the experiential quality for a mix of visitors, tourists and tower inhabitants. Upscale retail facilities, restaurants, cafés and bars combine to provide the ultimate urban leisure destination in Shanghai.
- Acting as a weather barrier, the curved podium façade is glazed to merge inside with outside, allowing daylight to penetrate the space and to form a connection between the approaching visitor to the Shanghai Tower and the stores and restaurants within it.
- A series of multi-level branded retail stores located on the ground level offer uninterrupted visibility from the exterior to their storefronts. Lower-level retail provides direct access from the street level and the mass transit promenade.

Tower Pinnacle

- The tower's pinnacle features the world's highest non-enclosed observation deck.

Global Collaboration

- The core Shanghai Tower design team is located in Gensler's Shanghai office and includes more than 80 design professionals from Shanghai and abroad.
- To design an innovative tower that met the client's sustainability and performance goals, Gensler called on talent from its global network, including the firm's offices in Shanghai, Chicago, Los Angeles, Houston, New York, Washington D.C. and San Francisco.

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