SHANGHAI TOWER

a symbol of China’s ascension
**shanghai tower** the new standard

- Shanghai Tower sets the new standard for tall buildings in major cities.
- Embodies a new way of inhabiting mega towers with a dense urban environment.
- “Represents a new way of envisioning and creating cities” (Gensler)
- Integrates sustainable practices and cutting edge design and innovation into Shanghai’s urban culture and prompts community with its stacked neighborhoods and sky lobbies.
- 43 sustainable technologies.
- A symbol of China’s emergence as a modern power.
Shanghai | “nyc on steroids”

- Shanghai is the gateway to China, which has become one of the leading economies in the world
- Largest city in China & largest city in the world – estimated 23.9 Million (World Population Review)
- Expected to have 50 million people in 2050, due to its fast-paced urbanization and economic growth
- Located at the mouth of the Yangtze River. (East China)
- Known as the Pearl of the Orient and the Paris of the East.
- Shanghai holds a tradition of parks and neighborhoods, and Shanghai Tower continues to reinvent a more urban environment.
super-high rise district

- Located in Lujiazui Financial District (Pudong District), one of Asia’s financial hubs.
- Shanghai Tower will complete the world’s “first super-highrise precinct”, including Jin Mao Tower, meaning the Golden Prosperity Building (Past) & Shanghai World Financial Center (Present).

“With the topping out of Shanghai Tower, the trio of supertall buildings is a stunning representation of our past, our present, and China’s boundless future.”

Jun Xia, design leader, Gensler Shanghai
location
Pudong District, Shanghai China

owner builder contractor
Shanghai Tower Construction & Development Co., Ltd.

mixed use
retail, office, hotel, cultural center

7.5 acres
2,073 ft
121 floors
6.2 msf
6 years to build
LEED gold
construction

Zoning/Building Area
- Site originally zoned for 200m
- Increased it to 632m as it was master planned

Construction - many firsts for China
- Clay based soil conditions
- 18ft mat foundation
- 63 hour concrete pour
- 450 concrete trucks cycled
- GPS tracking

Gensler
world class vertical city within a city

- Stacked Neighborhood
  - Unique design allows for a city within a city through the elevators
  - 14 story Zones

- Zones
  - Offices - efficient floor plate
  - Apartment
  - Hotel - one of the tallest hotels in the world
  - Cultural
  - Retail mall: 5 stories of retail at base
  - 14 story atrium at the base of each there is a 14 story atrium
  - Unique design of the double wall function has it's own identity at the ground floor
sustainable design at the core of shanghai tower

Shanghai Tower will be one of the most sustainably advanced tall buildings in the world—designed to achieve both LEED® Gold certification and a China Green Building Three Star rating.
sustainable strategies

- Daylighting
- Sunshading
- Building controls
- Cogeneration
- Local materials
- Envelope
- Landscaping
- Wind turbines

21% energy cost reduction
34,000 metric tons per year reduced carbon footprint
sustainable features: water efficiency

capture rainwater harvesting and blackwater treatment facility

40% water reduction

178,000,000 million gallons of water per year saved

425 olympic sized swimming pools
sustainable features: wind turbines and load reduction

- Wind turbines at the top of the building power the exterior lighting
- The geometry saved $58M in structural materials
- One degree of rotation on each floor
- Right amount of twist and taper sheds wind loads
- Allowed for makes the building more efficient 24%; less 32% reduction

45 turbines
54,000 kWh/year power production
sustainable features: double skin curtain wall

Transparent second skin that wraps the building - it creates atriums that insulates and reduces energy

Targeted to reduce energy consumption by 21%

Ventilated atriums conserve energy by modulating the temperature within the void

Space acts as a buffer between inside and outside, warming up the cool outside air in winter and dissipating heat from the building interior in the summer
“We hope Shanghai Tower inspires new ideas about what sustainable tall buildings can be. We’ve lined the perimeter of the tower, top to bottom, with public spaces, and we’ve integrated strategic environmental thinking into every move.”

Arthur Gensler
SHANGHAI TOWER
650 METERS
references

Content

Gensler Website  http://du.gensler.com/


CTBUH  http://www.ctbuh.org/portals/0/events/Conferences/Chicago09_Report/Speakers/S3.1_Gensler_ShanghaiTower.pdf

Images

Gensler Website  http://du.gensler.com/

Academy of Art University Presentation Video  https://www.youtube.com/watch?v=WD3Thj3b-JM

Skyscraper Center  http://www.skyscrapercenter.com/shanghai/shanghai-tower/