

Tall storeys now a growing reality

Rising populations and land costs are pushing Asian buildings ever higher, and while super-tall towers can be ego-driven status symbols, they can also solve urban density problems if integrated with the wider city

No vision of the city of the future is complete without gleaming towers disappearing into the cloudscape, while aircars zoom beneath.

To the disappointment of many children, the aircar is a long way off. However, visitors to the Pudong district of Shanghai could be forgiven for thinking that the future has already arrived.

Technology allows developers to build higher than ever before and the willingness of tenants and apartment-buyers to pay high prices for high floors is funding a tower boom. However, with growing populations and increasing urbanisation, there are also practical reasons for building tall, which will become more pressing in the future.

Taller is not always appropriate, of course, and architects and developers face the challenge of making tall cities liveable. "Different parts of the world require different solutions," says Benoy director Ferdinand Cheung. "What works for China and Japan will not necessarily work for the US and Europe."

The key, according to Cheung, is balance. "You need to look at the balance of low-rise and high-rise parts of the city and how they work together. Many of the projects I work on are large, mixed-use developments, which are like a 3D jigsaw puzzle, while traditional town planning works in two dimensions."

The first architect to promote high-rise living was Le Corbusier, who envisioned a tower sitting amidst an urban garden as the

solution to cramped and damp slums in Paris. However, his legacy has not always been positive (one writer described his work as "evil"). Also, as Cheung points out, the "tower in a park" concept is not something that would work in urban Hong Kong.

Asia has 362 cities with a population above 500,000, according to the UN DESA World Urbanization Prospect, more than the rest of the world combined. Yet its urbanisation rate is only 48%, well below the 73%, 82% and 83% levels of Europe, North and South America respectively.

Populations rising

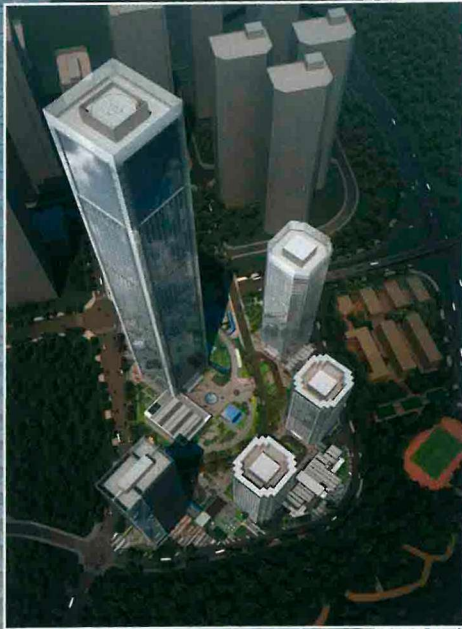
Furthermore, the populations of many Asian nations are still growing and all Asian nations – even Japan – are undergoing further urbanization. While Japan's population is falling, major cities such as Tokyo, Osaka and Fukuoka are still growing.

This population pressure, combined with a scarcity of land available for development, means that developers in Asia are compelled to build upwards. Asian cities already tend to be taller than their counterparts in most other regions and this vertical development is continuing. Since 1996, 15 skyscrapers taller than the Empire State Building have been constructed in Asia.

According to a recent CBRE report, Asia is home to 55% of the world's tallest buildings, while China alone accounts for a staggering 71% of the 'super-tall' towers set for completion over the next five years. ►

The Shanghai Tower in the city's Lujiazui financial district, China's tallest tower, is one of a number of super-tall structures in the area, but across the Huangpu River in Puxi there is a 100m limit on riverside buildings to keep the area more open and accessible





The 300m tower of Chongqing IFS, being developed by Hong Kong's Wharf Holdings, will be integrated with retail and hospitality space to combine four disparate sites in a single development through Benoy's masterplan

"Within Asia, there is a perception that a high density of tall buildings is synonymous with being a successful financial hub," says Andy To, executive director, asset services, at CBRE China.

"Super-tall office buildings are viewed by Asian authorities as a means to enhance the competitiveness of their business environment so their city can establish itself as a financial centre or to reposition their economy under the impacts of globalisation – this 'build it and they will come' strategy is being commonly adopted by emerging financial markets in Asia."

Taller buildings, higher rents

CBRE research suggests there is some quantifiable value in building tall; taller buildings command a rental premium of 10-40% compared with their shorter neighbours. However, construction costs increase as buildings get taller.

Building tall is about more than the practicalities of rising populations and city marketing strategies. The tallest buildings at each stage of history have been monuments as much as practical structures.

A concrete example of 'ego-driven' vertical development is the United Arab Emirates, which has fairly low population density and little pressure on land, but which is home to 13 of the world's 50 tallest buildings.

Perhaps in the interests of the UAE and other desert nations, French architecture company OXO has produced an ambitious plan to build a futuristic mixed-use tower in the world's biggest desert, the Sahara.

The company claims it can use rainwater collection, solar power and geothermal energy to make the 450m tower an entire sustainable city in one building. However, the design is still conceptual and has not yet been commissioned.

In contrast, China does need denser

development, to make the most of expensive land in its major cities, avoid urban sprawl and preserve its farmland. China's most forward-thinking city governments have been strict with their planning regulations to rationalise building height.

For example, Shanghai's Lujiazui financial district contains some of the most spectacular tall buildings in the world, including the recently completed, 632m Shanghai Tower, China's tallest building and the second tallest in the world.

But on the opposite side of the Huangpu River, in Puxi, new riverside buildings are permitted to be no taller than 100m, although further back from the river they may be gradually taller. This has the double effect of making the river frontage more open and accessible, while also allowing wider views towards Lujiazui on the Pudong side.

Hong Kong's Wharf Holdings is developing International Finance Square projects in Chongqing, Changsha and Chengdu, all with Benoy as masterplanner and podium architect. The Chongqing development, which integrates a 300m tower with space for retail, commercial and hospitality uses, is intended to bring together four disparate sites to form a new hub.

"For each of these schemes we bring a 'city within a city' mentality," says Cheung and the key design challenge – indeed the key challenge for all high-rise developments – was to integrate the project's various elements, as well as to integrate the project with the rest of the city.

"The science isn't in building tall, but in the integration. To make these developments viable and livable, you need to add human-scale, public realm and intuitive connectivity to balance the towers and bring the site together.

"This approach to design means tall buildings are not just plugged into the site at

ground level, isolating the taller elements."

Cheung considers that public space – but not necessarily open space – within a tall development is a key factor in integrating it with the wider city. For example, the already completed Chengdu IFS utilised the rooftop of the retail podium to create a large, landscaped Sculpture Garden filled with artwork and a lively alfresco dining scene that can be used by shoppers, workers, hotel guests and residents.

Changing Manhattan's skyline

In New York, the Midtown Manhattan skyline is set to undergo big changes in building height, something which has been largely absent for decades. A new breed of tall and slender residential towers is emerging, some of which are above the 300m (984 ft) measure used to qualify a super-tall building.

These developments include the 1,000ft tall One57, on West 57th Street; the 1,428ft 432 Park Avenue; the 1,522ft Nordstrom Tower; and the 111 West 57th Street building, which will be 1,438ft.

Two factors have driven the development of these towers: firstly, the willingness of the world's richest people to pay tens of millions of dollars for a Central Park view; and secondly, because of the fairly low profile of buildings in Midtown Manhattan, unused air rights are available and can be bought by developers of adjoining sites.

New York's Schubert Organisation, one of the biggest owners of real estate on Broadway, has made around \$50m selling the air rights above its theatres, which are often protected and thus unable to use the expansion space.

There has been some opposition to the new towers, but New York planners have defended the projects, as they use existing air rights efficiently and also contribute to a varied skyline.