

# METROPOLIS

With Cityscape Dubai in town this week, iQ looks at the modern-day skyscraper boom and why science fiction may not be far away from the architect's drawing board



When it comes to building booms, there is Dubai and everyone else following a distant second. Where Augustus Caesar in the 1st century BC found Rome a city of brick and left it one of marble, the emirate found Dubai a city of mostly sand and is leaving it one of steel, glass, aluminium, concrete and an assortment of composites and exotic alloys. Where other parts of the world have been content to put in the odd motorway, put down a shopping precinct, or replace a strip of hotels with family resorts, Dubai has staked its economic future on what can only be described as wholesale transformation of land, water and coastline costing hundreds of billions of dirhams.

To describe the sort of thing that's going up in Dubai you need a sack of superlatives and a solemn assurance that you're not kidding anyone. There's the world's tallest suspension bridge with an arch 670 feet tall and capable of handling 4,000 cars per hour, a proposed cultural hub that you'd be excused of mistaking

for a robotic jellyfish, a structure that's more Death Star than skyscraper, a block of flats that changes shape from hour to hour and never looks the same as before, skyscrapers that look like undulating flames, and others that seem outright impossible. Even the more conservative buildings make you think you got on the wrong plane and arrived on Krypton by mistake.

If you're looking for record breakers, they're easy to find. There's the Burj Al Arab, the world's tallest hotel; 321 metres – and it's the world's only seven-star hostelry. Then there's the Atlantis Palm Hotel, which covers 113 acres, includes a Dhs850,000-a-night suite and boasts the world's largest man-made island, which can easily be seen from space in what must be the world's most dramatic advertisement for the world's smallest audience.

And, of course, there is the Burj Dubai. Still under construction, it's at least 820 metres (its final height being a secret) and when it's finished it will contain the world's fastest lifts. With 162 storeys, that's probably a good thing.

It's the world's tallest building – at least, for now. The irony is that one of its contenders for the crown is located literally just down the road.

Dubai isn't the only place to find the breathtaking and exotic in architecture. If you stop by at Doha, Qatar, you can see the Museum of Modern Arab Art going up. In fact, you might want to go before they finish it, because at the moment it's easier to find. That's because once it's finished in 2011, it will quietly vanish into the landscape due to being designed to look unnervingly like a giant sand dune. It's a two-level, 106,700 square-metre, air-conditioned sand dune, but what really sets it apart is that it's made out of a "canvas-like material", which makes it one of the world's largest tents.

Then in Chicago, Illinois, there is the Chicago Spire. Containing 1,193 condominiums, this has to be the ultimate in curved skyscrapers. We're not talking a gentle twist like a flower stem. The Spire turns a full 360 degrees by the time it reaches the pointy top. It may be a very "green" structure

Proof that size does matter. A collection of the world's tallest buildings and, yes, that's ours in the middle.



Words DAVID SZONDY Pictures GETTY/GALLO

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that recycles rainwater, uses river water for air cooling, and has storage for hundreds of bicycles, but at 610-metres tall it towers so far above its neighbours that it gives the impression that Chicago is the victim of a very unsuccessful Chinese drilling operation.

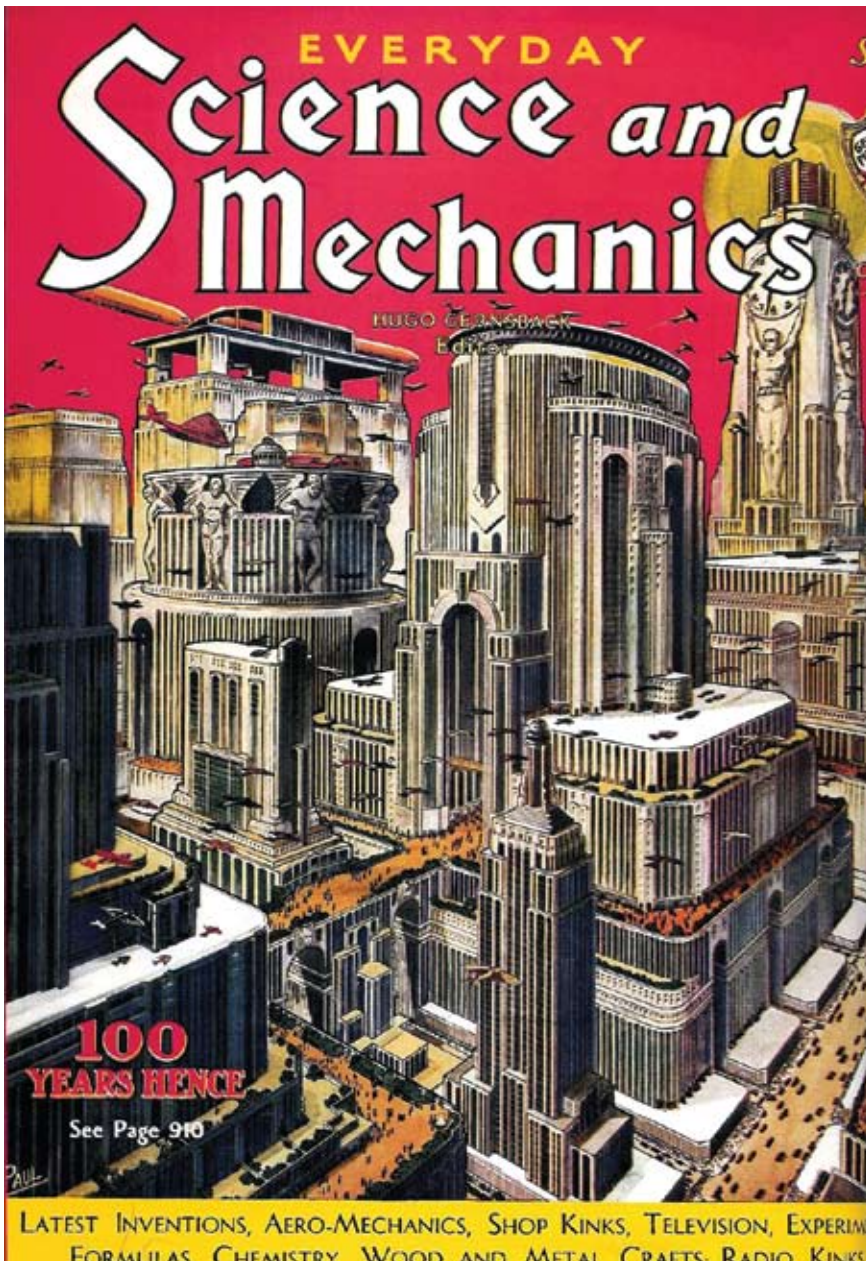
You can add to this a collection of buildings that look like badly stacked Mah Jong tiles, one that looks like a steel wasp’s nest, another that is ultra-modern architecture above the sixth storey and a brownstone primary school below, and the usual assortment of needles, glass gherkins, loaves, and every geometric shape known to man.

In a lot of ways, today’s building boom resembles the skyscraper boom of the 1920s and 30s, but with all the wind turbines and carbon fibre composites you’d dismiss that in favour of thinking that we’re in the middle of the greatest rush of architectural creativity in history, whereas previous generations were just piling up so much steel and brickwork. Maybe. But on closer examination you might conclude that the 21st century is somewhat lacking in ambition.

We think about the skyscraper boom as being about, well, skyscrapers. That’s not unreasonable, as it is the time when New York went from just another big, wealthy city to the concrete canyons and lofty spires that SpiderMan is so fond of jumping around. It was the time when the tallest building in the world went from the likes of the Flatiron Building and the Woolworth Building, which topped out at 87 metres and 241 metres respectively, to the race between the Chrysler Building and the Empire State Building, with the latter topping out at 449 metres; a record that stood until 1973.

Not bad for a building that took only 18 months to construct.

These giant towers were a quantum leap in engineering – not just in terms of things like structural steel and construction methods, but in



all the other things that make it possible to make skyscrapers practical. Some things, like the lifts, are obvious, but the Empire State Building is like a largish town stuck on its end and it required an incredible array of machines to heat it, cool it, ventilate it and pump water to the top floor. Just think about what went into figuring out how to get the toilets to flush on the 88th floor with a disappointing clunk or a horrifying flood and you have to admire what went into designing them. Even something like the revolving door is a clever and crucial invention because in earlier skyscrapers where the windows open you had to have a way to get in that acted as an airlock, otherwise the building acts like a chimney and you could end up with a hurricane in the lobby.

Yet all this is only the tip of an iceberg of some very big dreams that never came to pass.

During the 20s and 30s, skyscrapers weren't regarded as just very, very tall buildings. They were symbols of progress.

To some, such as avant garde architects like Le Corbusier, they were a way to throw off the bourgeois restrictions of classical architecture and create a new world that was all clean, industrial lines and bare shapes forged out of modern materials. The results might have been as ugly and sterile as living in a milk crate, but it was revolutionary.

To others, the skyscraper was itself the first step on the path to a new, technological utopia where bigger was better and bolder was the only way to go.

Look at the Burj Dubai, for example. It's a marvellous bit of engineering and beautiful to look at, but it excels in only one direction: Up. On the other hand, if you look at what the

## ODD BLOCK

*The Empire State Building now looks rather bland in comparison to modern-day architecture, so iQ picks out some of the more eccentric designs that push the boundaries of construction*

### DYNAMIC SKYSCRAPER

Designed by Italian architect David Fisher, who said: "This building will have endless different shapes", the Dynamic Skyscraper is one of the new Dubai developments. What sets this building apart is that each storey rotates independently so that the building never exhibits the same shape twice. How this effects the plumbing we shudder to think about.



### RYUGYONG HOTEL, PYONGYANG, NORTH KOREA

Under construction since 1987, this space rocket-shaped monstrosity has cost North Korea two per cent of its gross domestic product and is generally considered the world's ugliest building. Mercifully, it is unlikely ever to open for business and as Pyongyang is a closed city the odds of bumping into this... edifice is remote.



### STAR CITY

Leaving aside the question of "why?", this design from MAD is intended to be a mobile "China Town" 1,000 metres high with each arm serving a different function. A "self-sufficient" building, it's also supposed to be able to move from place to place as required. How this is supposed to happen is something the designers seem reluctant to talk about.



### LILY PAD

A floating city intended to house "refugees from global warming"—apparently very wealthy ones with a penchant for tropical holidays.



### THE TRYLON & PERISPHERE

The Perisphere was built for the 1939 New York World's Fair, this centrepiece building was 61 metres in diameter and its accompanying spire, the Trylon, was 213 metres tall. What made this massive piece of construction unusual is that it was made out of gypsum board and was demolished when the fair closed in 1940, making it the largest temporary structure in history. Which only goes to show.

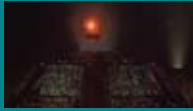


**BACK TO THE FUTURE**

*We wouldn't put it past UAE developers to draw up the blueprints, but, for now, these buildings are confined to the sci-fi history books*

**BLADERUNNER: TYRELL CORPORATION HEADQUARTERS**

Nothing says, "Here's a corporation with godlike powers that rules over all"



like corporate headquarters shaped like a gigantic Mayan pyramid that looms over the crumbling urban landscape. Mind you, it would do more for their image of self-confidence if they didn't stamp their name on the front of their executive chairs.

**STINGRAY: MARINEVILLE**

You have got to hand it to Gerry Anderson for going to the heart of the problem. Have a military base constantly under threat of attack from Subaquataneans and other assorted unpleasant types? Then to heck with all those annoying bomb shelter things. Just dig a giant hanger under the building and lower the whole thing into it the moment the alarm sounds. I'd love to see what their annual budget was like.

**THINGS TO COME: EVERYTOWN**

The ideal city of 2036, according to HG Wells. It's a perfect, climate-controlled environment where your every need is catered to. Mind, it is totally antiseptic with all the charm of an airport lavatory and you do have to put up with Shakespearean actors haranguing you at every turn from giant visiscreens as if they haven't anything better to do.

**FLASH GORDON: MING'S PALACE**

You have to give Ming the Merciless credit for knowing how to furnish a palace. This cosy little residence boasts one throne room, six meeting rooms, three conference centres, 62 bedrooms, 87 baths, five gyms, three Jacuzzis, nine secret laboratories, 1,276 dungeons, and one extremely obvious self-destruct switch.

**METROPOLIS: NEW TOWER OF BABEL**

Often duplicated, never equalled, The New Tower of Babel is the gold standard for sci-fi buildings. It signifies the promise of technological progress while warning of the dangers of the misuse of... Oh, who are we kidding? It's just cool.

# 'One of the buildings that may one day knock the Burj Dubai off its perch as the world's tallest building is the mile-high tower proposed to be built in Jeddah, Saudi Arabia. Surely nobody before World War II was planning anything that large'

likes of the popular science publisher Hugo Gernsback saw as the future, the Burj Dubai literally lacked breadth. In a cover article for a 1933 issue of *Science And Mechanics* entitled '100 Years Hence', Gernsback envisioned a New York of the year 2033 dominated by buildings two, perhaps three times as tall as the Empire State Building. But these weren't skinny towers with most of the height taken up by spires and antennae. These were massive citadels taking up 16 city blocks and were designed to be self-contained; not in the modern 'green' sense of having all sorts of recycling gear, but rather as cities within cities permanently housing tens of thousands of people with apartments, offices, schools, hospitals and even light industrial plants on the various levels. The people would live on the upper levels, far away from the smoke, dirt and noise. Indeed, people might not touch the ground for weeks on end. The buildings would be connected by vast skybridges; some carrying pedestrians and other motor traffic. For trips across town, vast systems of "slidewalks" would carry people to their destinations and for longer journeys the roofs of the buildings would have giant aerodromes capable of handling everything from the smallest autogyro to the largest Zeppelin.

The latter demonstrates that such dreams weren't entirely in the realm of science fiction. If you saw the 2004 film *Sky Captain And The World Of Tomorrow*, you may want the 90 minutes back, but you may also recall that it started with a Zeppelin docking atop the Empire State Building. This was not the result of the screenwriter's imagination, but reflects the fact that the giant spire atop the building was originally meant to serve as an airship terminal; a dream that, like the idea of rooftop aerodromes in general, was put paid to by the terrible turbulence and cross winds that skyscrapers are prone to.

But even if 21st century buildings aren't the megatowers that forecasters of the 30s dreamed of, at least today sheer height demonstrates modern ambitions. One of the buildings that may one day knock the Burj Dubai off its perch

as the world's tallest building is the mile-high tower proposed to be built in Jeddah, Saudi Arabia. Surely nobody before the World War II was planning anything that large.

This is true. No one was planning a tower a mile high. They planned one 1.23 miles high (1.9km). At least, that's what French engineer Henri Lossier did in 1935 when he proposed to build a concrete tower 1,981 metres tall to house fighter planes to defend Paris against attacking German bombers without wasting valuable time getting into the air. Of course, since war doesn't break out every day, the tower could also be used as a sanatorium for tuberculosis patients.

But wait. There is one 21st-century idea that has the bold, society-altering qualities of the skyscraper age. Timelinks, a Dubai-based environmental design company, is seeking developers to back their proposal for its "Ziggurat Project"; a pyramid-shaped city with a 2.3sqkm base that would house one million people in what Timelinks managing director Ridas Matonis calls "a car-less environment with a transport system that is powered by energy generated by solar, wind and steam". All this is said to derive from "the power of nature", though how steam comes into it is not as yet apparent.

It sounds very nice with its natural climate control systems and we admit that its design is much more appealing than most modern pyramid-shaped buildings, which always looks about as inviting as a paperweight, but still lacks scale. One million people does sound impressive for a single building until you bring up one Reverend Louis Tucker's 1929 design for a future New York that involved levelling the entire metropolitan area and replacing it with a single cubical building two miles high and two miles wide dead in the centre of Manhattan. With 800 storeys and a rooftop aerodrome that would dwarf anything on earth, this one building could easily house 80 million people.

It goes to show that even though we have some three quarters of a century of technological progress to draw on, in the scope department we have become a bit amateurish.

80 million; the toilet paper situation alone makes the mind boggle. ★