GEORGE EFSTATHIOU, THE GREEK-AMERICAN ARCHITECT

The sky's the limit

A THIRD-GENERATION GREEK DESCRIBES HIS PART IN DESIGNING THE TALLEST BUILDING IN THE WORLD

SIZE ISN'T everything, so they say, but when it comes to building the world's tallest building, it's the only thing. For George Efstathiou, the Greek-American architect behind the 828m Burj Khalifa tower in Dubai, the chance to work on this cloud-piercing architectural achievement was a towering opportunity.

"It's the tallest structure ever built by man, expressed in a modern edifice that is harmonious with the forces of nature," says Efstathiou, a managing partner in the Chicago-based office of Skidmore Owings & Merrill LLP. "When I started working I never thought I would be lucky enough to work on a project like this. It has certainly been incredible."

During the opening ceremony last month, the doors of the Burj Khalifa, a megastructure which cost more than 1 billion euros to build, were officially thrown open in a spectacular show of fireworks.

"It's definitely a career tower," says Efstathiou, a globe-trotting architect who has gained celebrity stature. "Now, whether or not another one will be done in my career that I can participate in - it's hard to answer. But I know that people envy the fact that I have pretty much worked on this for the past seven years."

AN: How did you get involved?

George Efstathiou: It all started in the spring of 2003. We were invited to participate in a competition for a tower that was to be 550m tall. They invited us and four other international architectural firms. We ended up winning the competition.

They came to us because of our experience - Skidmore and Merrill is world renowned for tall buildings. We had the experience. We have some of the best tall-building structural architects in the world here in our offices in Chicago.

So we started meeting with [the developers] and it quickly became clear that 550m was just a target. The client really wanted to break the record. We started looking at much taller towers and ended up settling at 828 metres, which is the tallest structure ever built by man.

It is at least twice as tall as anything else in Dubai, so it really stands out. And just like the Willis Tower [formerly the Sears Tower], which has become synonymous with the city of Chicago, the Burj Khalifa has become synonymous with Dubai. It is the city's landmark.

What was the greatest difficulty in designing and constructing the tower?

The biggest problem was fighting the forces of nature. Gravity is similar around the world, but the wind is different. Wind is the biggest factor that affects the structural design of a tower.

We actually tested the tower in a wind tunnel dozens of times in order to give the right shape and configuration to the building and also the roughness that you see on the tower. It's basically a tapering step tower and the taper and the stepping do a lot to mitigate the wind forces on the building. Whereas if you take a standard shape like a round building that goes straight up it would be the worst one to do. So the tapering tower in this Y-shaped plan really provided a very good platform for us.

Aside from being the tallest in the world, what else makes the Burj Khalifa stand out?

It's a modern building in the Middle East. It's also a tower that has a global appeal.

It's not just a building for the Middle East - that was exactly what the client wanted to do. When you are making a building like this and want worldwide renown, it has to appeal to the worldwide market.

So, this is a very modern building, though it does have references to Islamic architecture. If you take a look at the plan itself - it has pointed ends on the wings of the tower which are reminiscent of the pointed arches that you see in Islamic architecture.

There is some local flair to it, but it is really a building that is meant for the world.

What's next?

Well, there's always someone out there thinking about doing it taller.

And we just hope we will be considered.

Greek roots

"My parents were born here in the United States. My grandfather was born in Tripoli and my grandmother's family came from a small village just outside Tripoli," George Efstathiou says. "With both parents being Greek, my upbringing at home was strictly Greek. It's a heritage that I am very, very proud of even today. We've kind of lost track of certain relatives in Greece, but, hopefully, they'll get a chance to see the article and reach out to me. I would like to reconnect with my roots."

What do you think of modern Greek architecture?

"My last trip to Greece was two years ago. I believe that Athens has a certain texture and feel to it that should not be spoiled. Having the Parthenon being the utmost prominent structure in the city - it's fantastic. I think that there is room for some newer buildings - more commercial and more modern buildings - in Athens. But the market has to drive this. If people can't afford a better architecture, it is going to be more mundane to keep construction costs down so that people can afford to live there. But that is not to say that you can't do good design with a smaller budget."

When did you know you wanted to become an architect?

"My father could draw very well and his talent rubbed off on me. And also, I was very inquisitive about how things went together. I would take them apart and put them back together again. I think my father had a lot to do with that too because he was always building and making things at home. On my mother's side, her brother was an architect here in the US.

I went to a good high school here in Chicago that had a special programme - so I declared my interest in architecture early on. And I just continued from there.

After college I opened my own office and took on projects locally. But I soon found out that I wanted to work in a large firm like Skidmore Owings & Merrill. I think that an architect really learns more from on the job training and real life experience than in school.

So, I thought I would spend five years here at the firm. But I suddenly found myself working on these huge projects all over the world and the experience that I was being given was tremendous. And so I turned five years into 35 years and I have been here since. I worked my way up to partner in the firm now."

Brief bio

GEORGE Efstathiou is a third-generation Greek-American and a managing partner in the Chicago Office of Skidmore, Owings, & Merrill LLP. His experience has encompassed the design, technical coordination, and project management of a variety of projects. In 1989, Efstathiou relocated to SOM's London office for two years to manage both Broadgate and Ludgate projects. In addition to his experience in the United States, he has extensive international experience in the United Kingdom, Malaysia, Korea, Russia, China, Brazil and the Middle East.

Education

University of Illinois at Chicago, bachelor of architecture, 1974

Tallest of the Supertall

NOT only is Burj Khalifa the world's tallest building, it has also the tallest structure, previously held by the KVLY-TV mast in Blanchard, North Dakota, and tallest free-standing structure, previously held by the CN Tower in Toronto Canada. It also has the highest number of stories, the highest occupied floor, the highest outdoor observation deck and an elevator with the longest travel distance in the world.

The architecture

THE ARCHITECTURE of the Burj Khalifa tower in Dubai features a triple-lobed footprint, an abstraction of the Hymenocallis flower. The tower is composed of three elements arranged around a central core. The modular, Y-shaped structure, with setbacks along each of its three wings provides an inherently stable configuration for the structure. Twenty-six helical levels decrease the cross-section of the tower incrementally as it spirals skyward.

The central core emerges at the top and culminates in a sculpted spire. A Y-shaped floor plan maximises views of the Arabian Gulf. Viewed from the base or the air, Burj Khalifa is evocative of the domes prevalent in Islamic architecture.

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