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FACE TO FACE



Solid foundation

RMJM's engineering arm has been acquired by Ted Jacob Engineering. Director of structural engineering Dr. Peyman Nejad talks about the rationale and the solid foundation it now gives it in the region
By **Yamurai Zendera**

The decision by US-based Ted Jacob Engineering to take on the Dubai-based structural engineering arm of architecture practice RMJM is not without its risks. To date, Ted Jacob Engineering has been based in the US, and has largely focused on the healthcare market. The deal to take on RMJM's operations in Dubai not only thrusts it into lots of new markets, it also means the firm takes on significant overheads. The combined business now has 200 staff, but 120 of these are in Dubai.

Dr. Peyman Nejad, a Dubai-based principal at the firm and a director of structural engineering, argues that the recently-concluded deal allows Ted Jacob to join forces with a "fantastic firm". He argues furthermore that its presence in the market was unrivalled, and provides Ted Jacob with a solid foundation from which to build.

"This is not a two- or three-year-old company. RMJM [has been] in the market for more than 35 years. It was the first registered consultant used by Sheikh Mohammed in Dubai," says Dr. Nejad. RMJM has actually had a continuous presence in Dubai since 1970, and has worked on a number of landmark projects in the region, including Emirates Towers, Lamar Tower in Jeddah, Dubai Tower in Doha and Capital Gate at ADNOC.

"So many good projects have been designed by RMJM, not just here but worldwide," notes Dr. Nejad. RMJM's success in the region has not been all plain sailing though, with over-expansion believed to have contributed to financial difficulties at its Scottish parent group. Late payments from clients in the Middle East and Russia reportedly led to the firm delaying salary payments to its own staff which, in turn, led to defections in some parts of the practice's empire – it lost around 80 staff to competitors in Hong Kong and China.

However, the practice, which is owned by chairman Sir Fraser Morrison and his son Peter Morrison, the chief executive, eventually received a cash injection of around \$12m from the Morrison family, which helped stabilise the business. Moreover, Dr. Nejad says the bulk of the experience built up in the region had been retained as a result.

"They got into the same financial problems that everybody got when the market crashed in 2008. But they were so stable in the Middle East compared to others. They did not fire anybody; they tried to survive and get help from the UK office." Dr. Nejad points out that other major engineering practices in the region all underwent "massive layoffs" in comparison, with some reportedly shedding 100 to 150 staff.

The landmark Emirates Towers in Dubai.



A rendering of Dubai Tower in Doha.



“But RMJM did not lay off even one or two people. Of course, when the situation is like that and it is dragging into 2011 ... So the company might have one or two months delay in the salary, but employees have to appreciate when the company is in difficulty that it did not lay anybody off.” Numbers are down from the peak of around 275, but this included more than 50 architects who have remained with RMJM. The deal between the firms will also see them collaborating on projects, although not on an exclusive basis, for the next five years.

“Ted Jacob did not just buy the projects or the experience of RMJM; it bought the goodwill of the employees. Some employees have been with them for 25 years. You do not want to let people like that go,” says Dr. Nejad. Talks over a potential tie-up began 12 months ago, and the acquisition was agreed upon in principle in January. However, the deal has taken longer to complete, as legal issues surrounding projects had to be tied up, plus San Francisco-based Ted Jacob sought its own operating licence for the UAE.

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Dr. Peyman Nejad

Seasoned professional

Dr. Peyman Nejad is director of structural engineering for the Ted Jacob Engineering Group (TJEG). Throughout his distinguished career, he has dedicated himself to structural innovation. His best-known contribution has been to develop the hexagrid structure for tall buildings.

While widely regarded for his work on super-tall buildings, his expertise also extends to free-form and long-span structures. He has had a notable career in the analysis and design of concrete and steel structures, and is an acknowledged expert in the design of super-tall buildings.

His expertise extends to skillful project management and development. He is a motivated and dynamic, individual with the ability to lead his team in developing innovative solutions for a wide variety of issues, whether in structural analysis and design, value engineering, forensic engineering or management.

An effective and tactful communicator, much of his career to date has been in the auditing of the structural design of tall buildings, including the world's tallest, the Burj Khalifa in Dubai.

Other examples are the Gazprom HQ, Lakhta tower in St. Petersburg, and three buildings over 100-stories, namely Princess Tower and Marina 101, Dubai and Roya Tower, Doha.

Dr. Nejad is the recipient of multiple awards and honors, including the Award for Excellence for the invention of a new structural system, the hexagrid (beehive) system for tall and super-tall buildings, at the Council on Tall Buildings and Urban Habitat (CTBUH) 2011 World Conference.

In addition to working at TJEG, Dr. Nejad is actively involved with numerous professional organisations and universities. He has also received an Award for Excellence in Lecturing at the Islamic Azad University (IAU) and St. Petersburg State Polytechnical University (SPBPU). He is registered and recognised as an Iranian scientist in his original country and is a member of the Scientific Committee of the IAU. He was selected chairman of the Seismic Committee of High-rise & Complex Building for the International Congress on Seismic Retrofitting in Iran (March 2006). He is active as a leader of the CTBUH in Chicago, Illinois, in the US.



Capital Gate at
ADNEC in Abu
Dhabi.

Dr Nejad says that now the deal has been concluded, the firm can concentrate on growing the business again. "The strategy is that we are not going to focus only on the Dubai market. We are focusing globally now." Its Dubai base will be used to support other projects in the region. It also has offices in Abu Dhabi and Bahrain, and is working on projects across the GCC. These include a five-star hotel being developed at Palm Jumeirah for an unnamed client.

"We are going to have projects in other markets - mostly Asia and Russia. I believe Russia has a strong market," says Dr. Nejad. He also argues that the combined entity could leverage the experience of Ted Jacob Engineering and its eponymous founder in the healthcare market, which provides a unique selling point when entering new markets. "Ted Jacob is really specialising in healthcare. In the US, it is one of the top healthcare consultants. In this market, we do not have that much specialism in healthcare."

Dr. Nejad's own experience in the design of tall buildings is also proving to be useful.

He has patented a so-called hexagrid for tall buildings, based on naturally-occurring structures found in beehives. He began working on the system in 2007, and it has since been incorporated into the design for the outrigger of the Lakhta Tower project in Russia. It is also being worked into a detailed design for a major project in Abu Dhabi, after the system was used in a design competition. Dr. Nejad says that the nature of this project and the client who has commissioned it, the first in the Middle East region to do so, is currently confidential.

“I got so much appreciation from the market, especially from the architects. They love the system because you eliminate all of the vertical elements like columns. You have a



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Dr. Peyman Nejad



great view from the building if you are inside.” The system works by intersecting diagonal and horizontal structural components, which means that gravity and lateral loads are transferred throughout the structure.

Dr. Nejad says that, alongside the aesthetic advantages of the system, it also allows for major cost-savings, particularly on tall buildings. “We have proved to the client that, with this system, they can save 12% to 13% in the steel components of the structure. Also, we have proved that they can save 17% of the overall concrete costs. There are also indirect cost-savings such as the construction period and labour costs, etc.”

He predicts that the structure will be adopted by a new generation of tall buildings. “You talk to people, even architects, and so many say they do not know about the system. When they see it and become aware of it, either through the internet or wherever, you will start to see more of it in the market.” The system even recently gained a name-check in the latest Spiderman film, which Dr. Nejad only became aware of when colleagues who had seen the film contacted him about it.

“I am sure the Hollywood people have so many divisions researching websites to find new generations of tall buildings of the future, and they found the hexagrid. The night when they released the movie I received lots of emails. I did not know. I was shocked.”



Lamar Towers in Jeddah.

200 TOTAL NUMBER OF STAFF IN COMBINED BUSINESS • **1970** RMJM SETS UP IN DUBAI