



PRESS RELEASE
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Advanced Diagrid Technology Gives Shape to Capital Gate

An advanced building technique is being used to shape one of the world's most iconic buildings, Capital Gate in Abu Dhabi. The diagrid technology has been used on only a few high-profile international buildings, including the Hearst Tower in New York City, the Swiss Re building ("the Gherkin") in London and the CCTV headquarters tower in Beijing. The system requires less structural steel than a conventional steel frame, reducing costs and benefiting the environment. The diagrid is formed by creating triangular structures with diagonal support beams.

Capital Gate, which has applied to the Guinness World Records for the "world's most inclined building" is being built by Abu Dhabi National Exhibitions Company (ADNEC) and has been designed by global architects RMJM. The structural steel diagrid has now reached level eight of the 35 storey, 160 metre tower, with the core at level 11. The diagrid will now begin to curve westward as the tower's unique leaning posture becomes visible.

Simon Horgan, ADNEC Group CEO said, "Capital Gate will be an international icon for the emirate of Abu Dhabi and for ADNEC. When Abu Dhabi undertakes a project it does so with one aim – to be the best; the incredible technical achievement and aesthetic splendour of Capital Gate ensures it will be regarded around the world as one of the most magnificent buildings ever constructed."

"Globally, diagrid structures have been emerging as a new design trend for tall buildings with their powerful structural rationale and aesthetic potential," said Gordon Affleck, Design Principal for RMJM Middle East.

"And ADNEC's Capital Gate iconic tower will be the first building in Abu Dhabi to use this technique."

The total weight of Capital Gate's steel is estimated to be around 21,500 tons which compares favourably to the 110,000 tons used to build Beijing's Bird's Nest, the 50,000 tons estimated for the CCTV tower in Beijing and the 36,910 tons of steel used in Malaysia's Petronas Towers in Kuala Lumpur.

Capital Gate's 'diagrid' is subdivided into 722 elements and approximately 8,500 structural steel beams for the entire building. Each 'diagrid' element weighs approximately 15 tons and sports a painted finish.

The building's decorative 'splash' is designed to mimic a wave. Besides providing an

innovative sun shade for the Capital Gate tower itself, the splash also provides a new and creative treatment for the roof of the existing Grandstand canopy in the adjoining Abu Dhabi National Exhibition Centre Grandstand. The splash is a completely independent structure made of structural steel "I-beams" fixed to the main building structure.

Capital Gate, is being constructed on top of a 2 metre deep concrete base filled with an incredibly dense mesh of reinforced steel. This base sits above an intensive distribution of 490 piles which have been drilled 30 metres underground to accommodate the gravitational, wind and seismic pressures caused by the lean of the building.

Capital Gate will accommodate the 5-star 'Hyatt at Capital Centre' hotel and will provide the most exclusive office space in Abu Dhabi.

The iconic tower forms a major part of the Capital Centre development, an AED 8 billion (US\$2.2 billion) business and residential micro city being constructed around the thriving Abu Dhabi National Exhibition Centre.

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About Abu Dhabi National Exhibitions Company (ADNEC)

Abu Dhabi National Exhibitions Company (ADNEC) is a strategic international venue development and management company. ADNEC's venue portfolio includes one of the most modern exhibition centre's in the world - the *Abu Dhabi National Exhibition Centre*, and the UK capital's largest exhibition and conference venue, *ExCeL London*.

ADNEC is creating unique business districts to serve Abu Dhabi's rapid expansion and emergence on the global stage.

Development projects surrounding the Abu Dhabi National Exhibition Centre include *Capital Centre* (a mixed-use development of 23 residential, commercial and mixed-use towers adjacent to the exhibition centre), *Capital Gate* (an iconic 35 storey gravity defying feature tower, featuring the 5-star hotel - 'Hyatt at Capital Centre') and a 2.4km *Marina* zone.

In addition, ADNEC is expanding within the region, with The Al Ain Convention Centre, a residential and business micro city around a state-of-the-art convention centre.

For more information visit www.adnec.ae; www.alaincc.ae; www.capitalcentre.ae; www.capitalgate.ae; www.excel-london.co.uk;

About RMJM

RMJM is a UK-based, international firm of architects, employing 1,200 people across its network of 14 offices in the UK, Europe, the Middle East, Asia and the United States. RMJM's expertise and design-led approach is successfully demonstrated in on-going projects in more than 20 countries spanning a wide range of key sectors, from corporate headquarters and waterfront residential developments to major public buildings, university campuses and large-scale regeneration programs. The company currently has US\$15 billion worth of construction projects on its drawing boards, including some of the world's most high profile and ambitious projects.