

MEINHARDT





**Omar Shahzad**

Group CEO  
Meinhardt Group

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**“Our unwavering focus on our clients, our profession and our people has given us a unique edge in the industry, placing Meinhardt in a leading global position”**

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Guided by the wisdom that comes from over sixty years of experience, Meinhardt upholds its reputation as one of the top engineering consulting firms globally, an accomplishment achieved by building and sustaining a competitive advantage through innovation.

As engineers, the work we do plays a major role in shaping the built environment. At Meinhardt, we thrive on our ability to bridge the architectural concept and construction challenges with equally ingenious solutions which optimise construction cost, quality and time. Proud of our global expertise and success rate in delivering projects of all types and complexity.

We enjoy a high level of repeat business and long-term relationships with clients. Our valued clients continue to rely on us to address their greatest challenges; confident in our understanding of their goals and dedication to providing innovative yet practical design solutions that push the boundaries of traditional engineering.

Through strategic partnerships and synergy, we successfully deliver our clients' vision.

This brochure showcases our commitment to our clients, our profession and our engineers to deliver pioneering solutions that will set new standards of excellence in our field.

Gardens by the Bay, Singapore



Meinhardt is one of the world's few multidisciplinary and truly integrated engineering, infrastructure and design management consulting firms.

**Greenwich Peninsula**

The largest planning application submitted in Europe.

11

**Dubai Mall**

One of the largest malls in the world.

15

**Ocean Heights**

5<sup>th</sup> tallest residential building in the world.

18

**Al Hamra Tower**

The tallest sculpted concrete tower in the world.

22

**King Abdullah Financial District**

The largest project in the world seeking 'Green Building Accreditation'.

29

**Statue of Unity**

The tallest statue in the world.

37



## We deliver the best results for our clients through experienced professionals driven by a culture of passion, innovation and excellence.

One of the few design and engineering consulting firms in the world that offers a comprehensive range of services, Meinhardt has been a pioneering force in the engineering industry since its inception.

Known for its engineering expertise and history of successful project delivery, Meinhardt Group is a global multi-disciplinary firm that provides the full spectrum of integrated engineering, infrastructure and project management services across a wide range of market sectors. Bill Meinhardt started the engineering consultancy in Melbourne in 1955. His foresight and entrepreneurial drive soon took him well beyond the confines of Australia.

Today, the Group has a strong international presence, with 45 permanent offices and more than 4,500 professional staff across the globe. Each of our offices operates as an integral part of the Group to support our global pool of clients. Our geographical reach and diverse expertise allow us to identify opportunities and deliver highly innovative engineering services.

With a distinguished track record, Meinhardt continues to lead the way with its forward-thinking and creative solutions, building a reputation as one of the most trusted and respected engineering firms today.



**45**

office  
worldwide

**4,300**

professionals

**100K+**

projects  
completed

**350+**

awards  
globally

**60+**

years'  
experience

**£15BN**

worth of projects  
undertaken  
annually





## EXTENSIVE CAPABILITIES

- Civil & Infrastructure
- Façade Engineering
- Fire Performance Engineering
- Integrated Design Management
- Lead Consultancy
- MEP Engineering
- Mission Critical Facility Design
- Planning & Urban Development
- Project Management
- Specialist Lighting
- Specialist Services including:
  - Acoustics
  - AV Systems
  - IT Infrastructure
  - Vertical Transportation
- Structural Engineering
- Sustainable Engineering
- Value Engineering
- Water & Environment





**BUILDINGS**

- Arts and Culture
- Commercial Offices
- Convention Centres
- Hotels and Leisure
- Mixed-use Developments
- Parking Structures
- Residential
- Retail / Shopping Malls
- Sports Facilities / Stadia

**CIVIC**

- Defense
- Educational
- Public
- Healthcare / Hospitals

**INFRASTRUCTURE**

- Environmental Management
- Waste Management
- Water & Wastewater
- Energy Generation and Distribution

**INDUSTRIAL & MANUFACTURING**

- Distribution Centres
- Industrial
- Pharmaceutical
- Petrochemical

**INFORMATION TECHNOLOGY,  
RESEARCH AND COMMUNICATIONS  
TELECOMMUNICATIONS**

- Data Centres
- Life Sciences and Biotech
- Power Systems
- Telecommunications

**SUSTAINABILITY**

- Green Buildings & Architecture
- Energy Audits & Conservation

**TRANSPORTATION**

- Aviation
- Bridges
- Highways
- Ports
- Railways / Metros
- Tunnels

**URBAN LAND DEVELOPMENT**

- Built Environment
- Conservation and Restoration
- Urban Regeneration
- Urban Infrastructure



399

units  
1-4 bedrooms

£350

million  
construction  
cost

660,000

square feet

**Client:** Berkeley Homes

**Architect:** Squire and Partners / PTAL

**Completion:** 2016

**Services:** Civil, Structural, Geotechnical  
and MEP Engineering







## ONE TOWER BRIDGE

London, United Kingdom

The One Tower Bridge development is situated on a prime piece of real estate bound by Tower Bridge and the Thames in central London. Constructed above a site-wide basement, the development includes 9 luxury residential blocks – containing 399 units with a mix of 1-4 bedroom apartments and penthouses – as well as cultural and retail spaces. Engineering challenges include the incorporation and extension of an existing basement and foundations situated over part of the site, retention of the adjacent listed structures, adaptable designs for the cultural space, and the design for the phased installation of the services across the site including the district CHP plant.





**£8.4**

billion budget  
cost

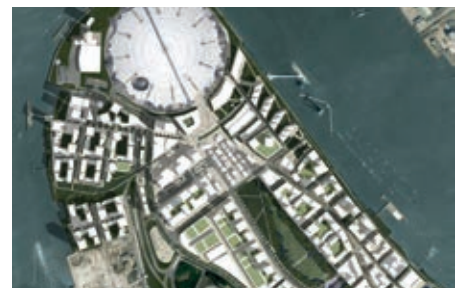
**15,720**

new homes

**1.4**

million square  
metres of  
redevelopment

**Client:** Knight Dragon  
**Architect:** Allies and Morrison Architects  
**Completion:** 2030  
**Services:** Civil, Structural,  
MEP Engineering







## GREENWICH PENINSULA

London, United Kingdom

The planning application for the Greenwich Peninsula redevelopment project is the largest submitted in Europe, covering 1.4 million square metres. The 2015 masterplan will create high quality urban environments in which to live, work, learn and play, and which will allow for future growth and change within a sustainable development framework. The project will unfold over 25 years to provide an extensive mixed-use development of residential, commercial, retail, hotel and leisure, entertainment and green space areas.





1



### 1. 65 Southwark Street, London

The 65 Southwark Street project encompassed the refurbishment and extension of a 1960s office building. The refurbishment involved the modernisation of five existing office floors and the development of a retail tenancy unit with large street frontage. Combined with this is the construction of two additional open plan office floors, providing a modern economic building while retaining the existing building structure. This project achieved a BREEAM rating of 'Excellent'.

**Client:** Moorevale Properties

**Architect:** ESA Design

**Services:** Structural and MEP Engineering

### 2. Harbour Central, London

A large mixed-use residential scheme providing 900 apartments over five residential buildings ranging from 9-42 storeys in height. The development will provide a range of high-spec studio, one, two and three-bedroom apartments along with eight penthouse apartments, whilst the leisure complex will include a 'Resident's Club' with a proposed library, concierge, gym and spa, business suites and cinema.

**Client:** Galliard Developments Limited

**Architect:** Rolfe Judd

**Services:** Civil, Structural, and Façade Engineering

2







3



4



5

### 3. Stryker Headquarters, Newbury

The development provides 100,000 square feet of office accommodation and warehousing for Stryker UK. The project has been designed with the potential for future expansion. It also has a full height entrance area incorporating feature ETFE roof coverings.

**Client:** Stryker UK Ltd

**Architect:** ESA

**Services:** Civil, Structural & MEP Engineering

**Awards:** Constructing Excellence London and South East 2012 - 'Value Award'

### 4. The Atlas Building, London

The project involves the design of a 40-storey residential tower and a 10-storey office building above a single-storey basement. The site is located on a confined and constrained central London site in close proximity to the Old Street 'Silicon Roundabout'. Immediately adjacent to the site, beneath City Road, is a highway of fibre optic cables as well as the London Underground Northern Line tunnels.

**Client:** Rocket Investments

**Services:** Façade Engineering services from Stage C through to completion, Structural Engineering Peer Review

### 5. Shoreditch High Street Hotel, London

A mixed-use development on Shoreditch High Street, comprising a 200-room hotel, circa 12,000 square metres of commercial office and some 5,800 square metres of shared public areas, retail and amenities.

The accommodation will be 29 floors above ground, and will have 2/3 basement levels.

**Client:** Highgate

**Architect:** Gensler

**Services:** MEP Engineering



One of the  
world's largest  
shopping malls

**13**  
million  
square feet  
total area

**1,200+**  
stores

**3.7**  
million  
square feet of  
gross leasable  
area

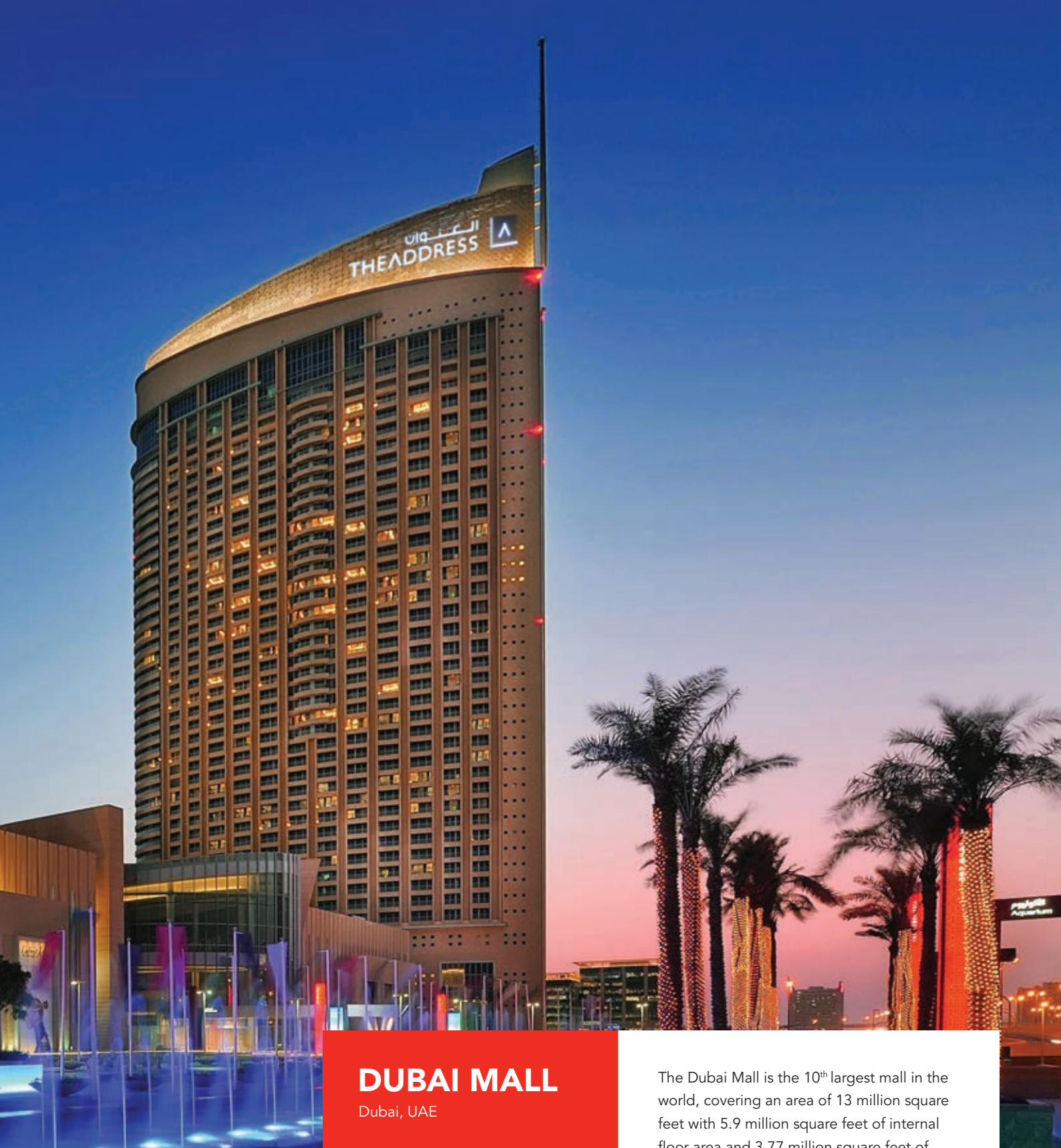
**5**  
awards including  
'Best Retail  
Development  
Scheme'

**1,200+**  
Largest district  
cooling plant in  
downtown  
Dubai

**Client:** Emaar Properties PJSC  
**Architect:** DP Architects (S) Pte Ltd  
**Completion:** 2008  
**Services:** Lead Engineer, Civil, Structural,  
MEP and Façade Engineering







## DUBAI MALL

Dubai, UAE

The Dubai Mall is the 10<sup>th</sup> largest mall in the world, covering an area of 13 million square feet with 5.9 million square feet of internal floor area and 3.77 million square feet of gross leasable area. The Dubai Mall is the centrepiece of Downtown Burj Dubai, which is a 500-acre mega-development by Emaar Properties described as 'the new heart of the city'. The mall contains over 1,200 stores offering a retail mix unmatched by any other mall in the world.





**AED3**  
billion  
construction  
cost

**75**  
storey office

**357**  
metre tall  
tower

**650,000**  
square metres  
total area

Concept  
Architect Zaha  
Hadid

Within the three  
towers, office,  
hotel and  
residential  
functions are  
'woven' together  
in a unique  
flexible manner

**Client:** Dubai Properties  
**Concept Architect:** Zaha Hadid  
**Services:** Project Management,  
Architectural, Civil, Structural,  
MEP Engineering







## SIGNATURE TOWERS

Dubai, UAE

The Signature Towers is a high-rise commercial development in the heart of the Dubai Financial district. The towers' striking intertwined design creates a new, powerful presence on the city skyline. The three towers correspond to three main functions, offices, hotel, and residential, but intertwine and conjoin at points to share common areas that support the needs of the towers' population. Retail, restaurants and related amenities are found at the shared podium at the base, and the towers share a panoramic restaurant at the top floor with breath-taking views of the Dubai creek.





1



### 1. The Dubai Marina Mall & Hotel/ Apartments, Dubai, UAE

Comprising 160 stores, a 7–storey 'Gourmet Tower' and adjoining 40–storey luxury hotel, the mall boasts a total built-up area of 796,529 square feet.

**Client:** Emaar Properties

**Completion:** 2009

**Services:** Lead Engineer, Civil, Structural, MEP and Façade Engineering

### 2. Ocean Heights, Dubai, UAE

Currently the 5<sup>th</sup> tallest residential building in the world. Ocean Heights is an 82–storey residential tower, standing at 310 metres with a total built-up area of 1.3 million square feet, inclusive of three levels of basement parking.

**Client:** Damac Properties Co. LLC

**Completion:** 2010

**Services:** Civil and Structural Engineering

2





3



4

### 3. Dubai Festival City, Dubai

Comprising two hotels (InterContinental Hotel and Crowne Plaza) and a serviced apartment complex, with a total built-up area of 2.69 million square feet.

**Client:** Al-Futtaim Group

**Completion:** 2007

**Services:** Structural Engineering

### 4. Dubai Pearl, Dubai

Consisting of commercial, residential, hotel and retail facilities, all within a site area of 22 million square feet.

**Client:** Pearl Dubai FZ LLC

**Services:** Lead Engineer, Civil, Structural, MEP and Façade Engineering





**25,000**  
seat stadium

**23**  
hectares of  
mixed-use  
space

**\$1BN**  
construction  
cost



**Client:** Public Authority for Housing Welfare  
**Completion:** 2018

**Services:** Lead Consultancy, Civil, Structural,  
MEP Engineering, Façade, Architectural and  
Landscaping







## KUWAIT OLYMPIC VILLAGE

Kuwait

The project site covers 23.6 hectares and includes a 25,000-seat stadium, 3 game halls, a swimming complex and other auxiliary facilities, with a total built-up area of 2.67 million square feet. The project will also include residential facilities, to enable the hosting of international sporting competitions. Meinhardt has been appointed to provide project design management services as well as complete architectural and engineering design consultancy services on the project.





### 1. Al Hamra Tower, Kuwait

The tallest sculpted concrete tower in the world standing at 412.6 metres, accommodating 70 storeys of office space, a rooftop restaurant, spa area, a 5-storey retail mall and an 11-storey car park. Total built-up area of 2.35 million square feet.

**Client:** Al Hamra Real Estate Co.  
**Architect:** Skidmore, Owings and Merrill  
**Completion:** 2011  
**Services:** M&E Audits

### 2. Mall of Kuwait, Kuwait

A six million square foot development consisting of 220 retail outlets, 3 department stores, a hyper-mart, 750-seat performance hall, 10 cinemas, bowling alley, family entertainment and a multi-storey car park.

**Client / D&B Contractor:** BAJV  
 (Joint Venture of Bouygues, France & Ahmadiyah, Kuwait)  
**Completion:** 2010  
**Services:** MEP Engineering







**1. One&Only,  
Al Seef, Manama, Bahrain**

Consisting of hotels, villas, gourmet restaurants, retail and a One&Only spa, with a total built-up area of 377,000 square feet.

**Client:** Seven Holdings SPC

**Completion:** 2017

**Services:** Lead Engineer, Structural and MEP Engineering



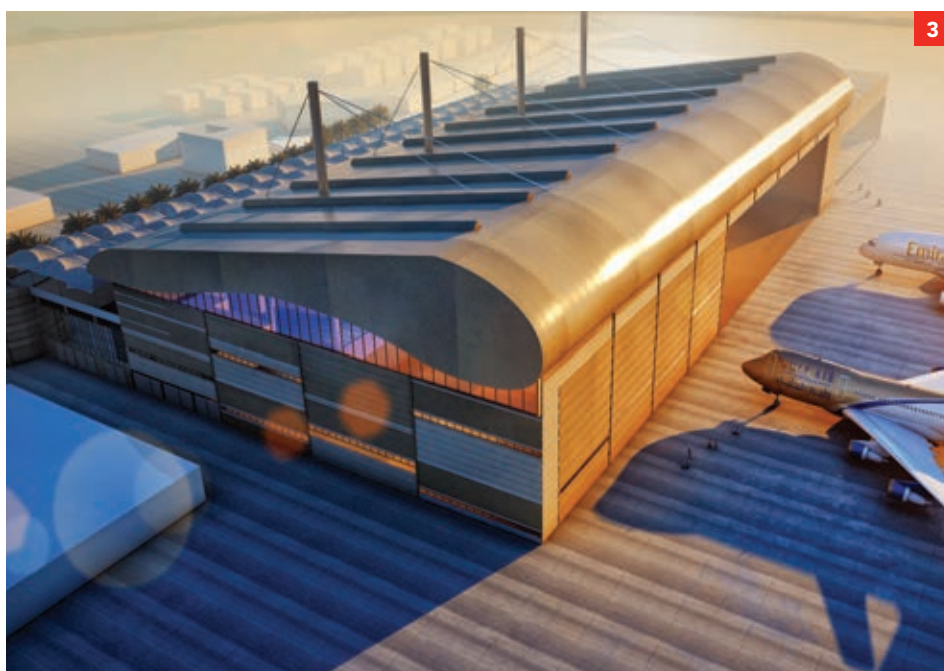
**2. University of Bahrain:  
College of Engineering,  
Sakhir, Bahrain**

The new college campus consists of 11 buildings – of which eight are for academic purposes – including a college auditorium, a lecture theatre and a multi-purpose hall.

**Client:** University of Bahrain

**Completion:** 2013

**Services:** Lead Consultancy, Civil, Structural, MEP Engineering, Façade and Architecture



**3. Gulf Technics Hangar and Support  
Facilities  
Bahrain International Airport, Bahrain**

The hangar will accommodate either the width of three A380 aircraft or the same in length of B777 aircraft, in fully enclosed aircraft bays.

**Client:** Gulf Technics

**Completion:** 2013 (Design Completed)

**Services:** Lead Consultant, Project Management, Architectural, Civil, Structural and MEP Engineering



**195**  
metre  
high-rise  
building

**52**  
storey  
Tornado Tower

Meinhardt Value  
Engineering  
services resulted  
in reduction of  
5,700 tonnes of  
unnecessary steel  
from the original  
design

**Client:** Six Construct – Midmac JV  
**Owner:** Qatar Investments & Projects  
Development Holding Company (QIPCO)  
**Completion:** 2009  
**Services:** Structural Engineering







## TORNADO TOWER

West Bay, Doha, Qatar

Designed to be one of the most iconic developments in Doha, this 195 metre high, 52-storey tower houses the headquarters for Qatar Investments & Projects Development Holding Company (QIPCO). Tornado Tower utilises an efficient yet striking structural system to house 52 floors of office space with 3 basement levels for car parking. The tower has a unique truncated cylindrical design with the largest and smallest floor plates at 55 metre and 40 metre diameter respectively. Meinhardt provided structural engineering services on a turnkey basis with the Construction Contractor.







### 1. City Centre Haraj Doha, Qatar

Consisting of two luxury hotels and serviced apartment towers, a four-storey retail mall and four levels of basement parking, with a total built-up area of 3.27 million square feet.

**Client:** AAMAL (Al Faisal Holding)

**Completion:** 2016

**Services:** Lead Consultancy, Civil, Structural, MEP, Façade Engineering and Architecture.

### 2. City Centre Mall Doha, Qatar

Reputably the largest mall in Qatar, with a total built-up area of 3.23 million square feet. This includes 1.3 million square feet of leasable area over 5 floors.

**Client:** Sheikh Faisal Bin Qassim Al-Thani

**Completion:** 2010

**Services:** Lead Consultancy, Civil, Structural and MEP Engineering





3



### 3. Alaatedah Mall Doha, Qatar

Five interconnected buildings consisting of 650 shops with a total built-up area of 861,112 square feet and two parking buildings with 1,600 parking spaces each.

**Client:** Barwa Real Estate

**Completion:** 2017

**Services:** Lead Engineer, Civil, Structural, MEP Engineering and AOR Services

4



### 4. The Pearl, Viva Bahriya Doha, Qatar

A man-made island in the Arabian Gulf, featuring 29 blocks of 20–24-storey residential towers, car parking, townhouses and retail facilities, with a total built-up area of 42.9 million square feet.

**Client:** United Development Company

**Completion:** 2011

**Services:** Lead Engineer, Civil, Structural and MEP Engineering



Largest project in  
the world seeking  
Green Building  
accreditation

**1.6**  
million square  
metres total  
built-up area

**385**  
metre tall  
Financial Market  
Tower at the  
heart of the  
district

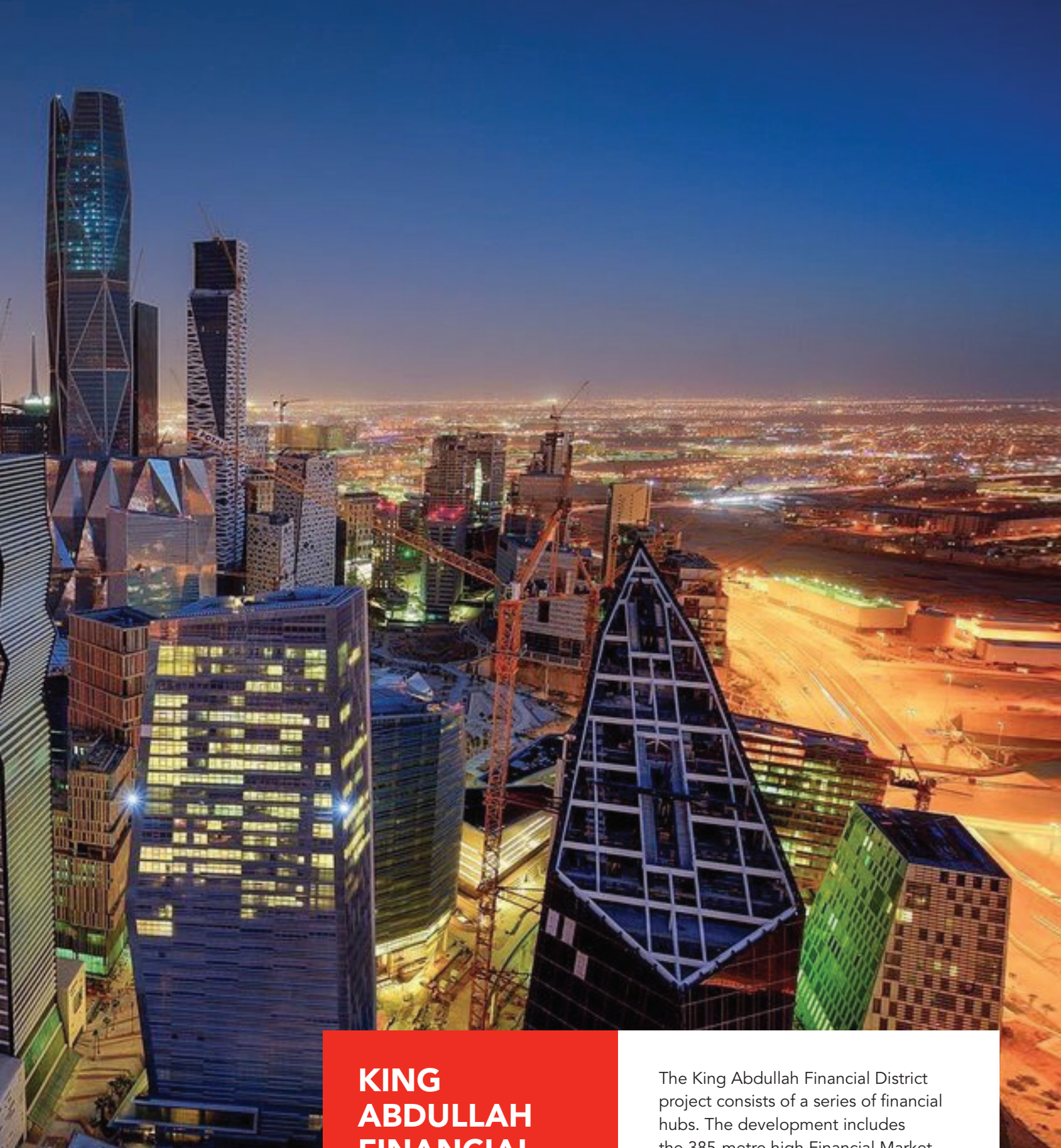
Design Peer  
Review for  
Structural  
Performance for  
the 77-storey  
Capital Market  
Authority Tower

Through our site  
investigation QA  
Programme  
21,000 non-  
conformances  
have been  
identified

**Client:** Rayadah Investment Company  
**Completion:** 2020  
**Services:** QA/QC and Value Engineering



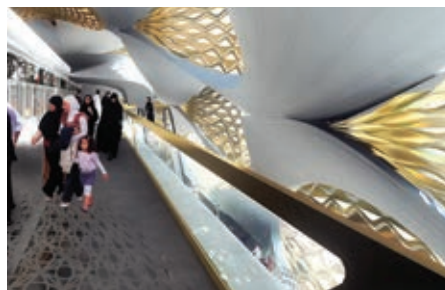




## KING ABDULLAH FINANCIAL DISTRICT

Riyadh, Kingdom of Saudi Arabia

The King Abdullah Financial District project consists of a series of financial hubs. The development includes the 385-metre high Financial Market Tower at the heart of the district, a financial academy and recreational facilities, totalling a built-up area of 1.6 million<sup>2</sup>. Meinhardt is reporting directly to the client to ensure that the works are in accordance with the approved drawings, specifications and international best practice.







### 1. Al Faisal University Campus, Jeddah, Saudi Arabia

Al Faisal University is a mixed-use development of 240 hectares, situated in the Prince Sultan Cultural City. It includes major culture and medical facilities as well as retail, commercial and residential components.

**Client:** Al Faisal University Campus

**Architect:** Gerber Architekten

**Completion:** 2016

**Services:** Civil, Structural and MEP Engineering

### 2. Jazan Economic City, Jizan, Saudi Arabia

The development is situated on the edge of the Gulf coast and delivers a total built-up area of 1.182 million square feet. It consists of an advanced industrial zone, equipped with superior network facilities designed specifically for heavy industry projects as well as secondary (processing) industries and also features an extensive residential area.

**Client:** MMC International Holdings

**Services:** Masterplanning and Infrastructure Engineering







### 3. South Border Housing Extension Jizan, Jizan, Najran, Aseer, Al Qamah and Dhahran Al Janoub, Saudi Arabia

The Ministry of Interior (MOI) project consists of residential housing with comprehensive facilities. The total built-up area is 3.1 million<sup>2</sup>.

**Client:** Ministry of Interior (MOI)

**Completion:** 2017

**Services:** Lead Consultant, Architectural, C&S, MEP Engineering and Infrastructure adaptation

### 4. King Abdullah Project 5 Saudi Arabia

The King Abdullah Project 5 encompasses the development of the Ministry of Interior's Security Headquarters for the central, western and eastern regions. There are 77 sites with a total built-up area of 564,255 square metres. Meinhardt is the lead consultant providing architectural, C&S, MEP engineering, and infrastructure adaptation.

**Client:** Ministry of Interior (MOI)

**Completion:** 2017





Awarded ENR's  
Global Best  
Project in the  
Cultural Projects  
category

**US\$68**  
million  
construction  
cost

Designed and  
built within  
one year



**Client:** Summa Construction  
**Architect:** Tabanlıoğlu Architects  
**Completion:** 2014  
**Services:** Structural Engineering







## DAKAR INTERNATIONAL CONGRESS CENTRE

Dakar, Senegal

Meinhardt provided structural engineering design services for this fast-track project. Designed by Tabanlıoglu Architecture, the project was constructed in only 9 months, in time for the 15 Franchophonie Summit. Total built-up area of 834,203 square feet.







### 1. Marriott Waterfront Hotel Victoria Island, Lagos

The project is a new build development situated on Lagos creek. The building is eight storeys above ground, organised into three parts. The lower levels include public areas and conferencing. The mid-levels from third to sixth floor incorporate 150 guest rooms. The upper levels at the seventh and eighth floors include a spa, health club, gym, executive lounge and specialty restaurant.

**Client:** Quantum Luxury Properties Limited

**Architect:** G1 Architecture

**Completion:** 2016

**Services:** MEP and Fire Engineering

### 2. Nairobi Tower Kenya

Meinhardt is providing lead engineering, structural and MEP services for the Nairobi Towers. The proposed development comprises two high-rise buildings (300-metre 66-storey office tower and 21m<sup>2</sup> 40-storey hotel) with a retail podium over four floors and car parking. When completed in 2018, Nairobi Towers will be the tallest building in Africa.

**Client:** White Lotus Group

**Completion:** 2018

**Services:** Structural, Civil, MEP, Facade and Acoustics Engineering







3

### 3. Hotel Ikeja, Lagos

The project is a new-build development located close to Lagos Murtala Muhammed Airport.

The hotel accommodates 250 fully-serviced rooms and suites, and includes tennis courts, ballroom and extensive restaurant facilities. The building will be seven storeys above ground, with a basement.

**Client:** Sifax Group

**Architect:** G1 Architecture

**Completion:** 2017

**Services:** MEP, Fire Engineering and Specialist Services



4

### 4. Libreville Hotel & Resort, Gabon

The resort will boast a five-star fully-serviced 251-key hotel and 40 executive apartments, located on a beautiful waterfront near the central business district.

The hotel will accommodate three restaurant outlets including a specialty restaurant and a sports bar. Recreational facilities will include a health and leisure club, tennis courts, private beach and outdoor pool. The hotel will offer 11,000 square feet of meeting space including a boardroom, individual meeting rooms and a ballroom.

**Client:** Prime Hospitality

**Architect:** G1 Architecture

**Completion:** 2017

**Services:** MEP Peer Review



5

### 5. International Convention Centre Abuja, Nigeria

The project comprises an International Convention Centre located in the central business district of Abuja. The ICC will include a tower, approximately 200 metres in height, and a mixed-use podium building including convention and exhibition spaces, an auditorium, meeting spaces, retail areas, restaurants and services areas.

**Client:** Central Bank of Nigeria & QS consultancy

**Architect:** DGNL / MZ

**Services:** Facade Engineering





**Client:** Government of Gujarat  
**Architect:** Michael Graves and Associates  
**Services:** MEP, Structures, Infrastructure, Geotechnical, Facade, Fire Safety and Vertical Transportation







**182**

metres in height  
– tallest statue in  
the world

**20,000**

square metres  
total project area

**4**

years'  
construction  
time

## STATUE OF UNITY

Gujarat, India

The statue of Vallabhbhai Patel will be situated on the river island Sadhu Bet, 3.2km away from Narmada Dam. The statue will be constructed with steel framing, reinforced concrete and bronze coating. The first phase will involve the construction of a bridge connecting the island to the mainland, visitor centre buildings, a memorial and memorial gardens, a hotel, convention centre, amusement park, research centres and institutes.







### 1. MRC, Chennai

The MRC is distinguished by its superior location surrounded by plush neighbouring districts, governors' residences, and the beautiful Guindy National Park. The club development incorporates eight 16-storey blocks of 240 contemporary-styled apartments facing the waterfront.

**Client:** DLF Limited

**Architect:** SRSS Singapore

**Services:** Integrated Engineering Services

### 2. DLF Horizon, Gurgaon, India

The Horizon Centre is an iconic mixed-use building of 23 storeys in the heart of the DLF City. It consists of office space from the 2<sup>nd</sup> – 23<sup>rd</sup> floor, with the ground floor, mezzanine and 1st floor levels comprising a mix of offices and retail. The DLF Horizon is the first commercial building of its kind to have been designed to the Platinum certification standard of the LEED rating system.

**Client:** DLF Limited

**Architect:** Robert A. M Stern Architects

**Services:** MEP Engineering and Peer Review







### 3. Oberoi Realty [Oasis], Worli, Mumbai

The mixed-use development at Worli has three phases comprising of a residential tower, commercial office space and a luxury hotel.

The residential tower is 385 metres in height (G+85), while the mixed-use hotel + office tower is 254 metres (G+52). The project has a Sustainability goal of LEED-Gold Certification.

**Client:** Oberoi Realty

**Architect:** Kohn Pedersen & Fox

**Services:** MEP Engineering

### 4. South City Residential Development, Kolkata



India's largest mixed-use urban development covering an area of 31.14 acres and featuring four residential towers of 36 floors each. This development comprises 1,600 flats, multiple clubs, a school and more than one million square feet of retail space, all planned to international standards.

**Client:** South City Projects (Kolkata)

**Architect:** Dulal Mukherjee & Associates

**Services:** Structural Engineering



Award-winning  
global landmark

**£480**  
million  
construction  
cost

**130,000**  
plants comprising  
over 400 species  
and varieties

**54**  
hectares of  
public garden  
space

**2**  
cooled  
conservatories  
spreading over  
20,000 square  
metres

**Client:** National Parks Board, Singapore  
**Architects:** CPG Consultants &  
Wilkinson Eyre Landscape  
**Architect:** Grant Associates  
**Services:** Civil and Structural Engineering







## GARDENS BY THE BAY

Singapore

The two conservatories at Bay South Gardens opened in June 2012 and are a spectacular addition to Singapore's Marina Bay. At 54 hectares, Bay South Gardens is the largest of the three themed gardens planned for the area. The Gardens feature two cooled conservatories – the Flower Dome (cool dry biome) and Cloud Forest (cool moist biome). These house exotic plant species found in the Mediterranean and tropical montane regions respectively. The new downtown horticultural gardens showcase Supertrees between 25 to 50 metres tall, interactive themed gardens and an event lawn.





### 1. One Raffles Quay, Singapore

Twin office towers—one 50 storeys high soaring 245 metres above ground, and the other 29 storeys high with a 17-metre deep basement housing plant. The project encompasses a gross floor area of 214,000 square metres including a large hub, tenants' multi-level carpark, retail and restaurant facilities as well as Singapore's first commercially-applied District Cooling System. A 150-metre long subterranean mall runs beneath the busy roads connecting the new development with Ocean Building and Raffles Place MRT Station.

**Client:** One Raffles Quay Pte Ltd  
(Consortium of Hong Kong Land, Keppel Land and Cheung Kong Holdings)

**Completion:** 2007

**Construction Cost:** \$420 million

**Services:** Structural and MEP Engineering

**Awards:**

BCA Green Mark Gold Award, 2009

BCA Design and Engineering Safety

Excellence Awards (Merit), 2008

CTUBH Honourable Nominee for Best Tall Building - Asia and Australasia, 2008

FIABCI Prix d'Excellence Awards, 2008

(Winner in Office Category), 2008

### 2. Orchard Gateway, Singapore

The project involves the redevelopment of the Specialists' Shopping Centre & Hotel Phoenix (SCHP), and Orchard Emerald (OE) at Orchard Road. The two sites are to be connected underground beneath Orchard Road and above via a sky bridge. The redevelopment of SCHP comprises two basements linked to the existing Somerset MRT Station, a 19-storey podium of retail carparks and a 21-storey hotel tower. The redevelopment of OE comprises two basement levels of retail and an 11-storey retail/office tower.

**Client:** 218 Orchard Private Limited

**Architect:** Tange Associates / AWP

**Services:** Civil and Structural Engineering

**Awards:** BCA Green Mark Platinum, 2012







3

### 3. Sail@Marina Bay, Singapore

Meinhardt provided integrated structural and MEP engineering services for these two distinctive 70 and 63-storey towers. The development includes a 6-storey podium housing a hub, tenants' carpark and a retail basement with links to adjoining buildings and Raffles Place MRT station. The towers are particularly slender, with aspect ratios of 10.9 and 10.2 respectively.

**Client:** City Development Ltd & AIG Group, USA.

**Services:** Structural and MEP Engineering

### 4. Changi Airport Terminal 1 Upgrading, Singapore

The \$500-million upgrade of Terminal 1 (T1) of Changi Airport has given the terminal a fresh and rejuvenated look. Works were carried out to refurbish the terminal's interior design and finishes, as well as improve passenger flow at key areas such as the Departure Check-in Hall, Departure Transit Mall and Arrival Hall.

**Client:** Civil Aviation Authority Singapore

**Services:** Civil, Structural, Mechanical, Electrical & Façade Engineering



4



Known locally as  
'The Open Door'

**HK\$5**  
billion  
construction  
cost

Structurally  
optimised using  
Non-Linear  
Integrated  
Design and  
Analysis - NIDA



**Client:** Architectural Services Department  
**D&B Contractor:** Gammon Hip Hing JV  
**Architect:** Rocco Design Ltd  
**Services:** Civil and Structural Engineering



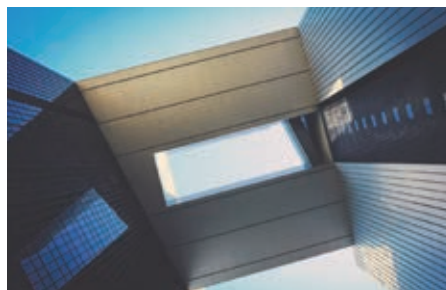




## TAMAR DEVELOPMENT

Hong Kong, China

The project consists of the design and construction of the Central Government Complex, the Legislative Council Complex, two hectares of landscaped open space, as well as two long-span pedestrian footbridges and other ancillary facilities. The buildings are designed to provide a world-class headquarters which reflects the image of Hong Kong as 'Asia's World City'. The Tamar Development Project is set to become a new landmark in its prime position next to Victoria Harbour.







### 1. Centre 66, Wuxi, China

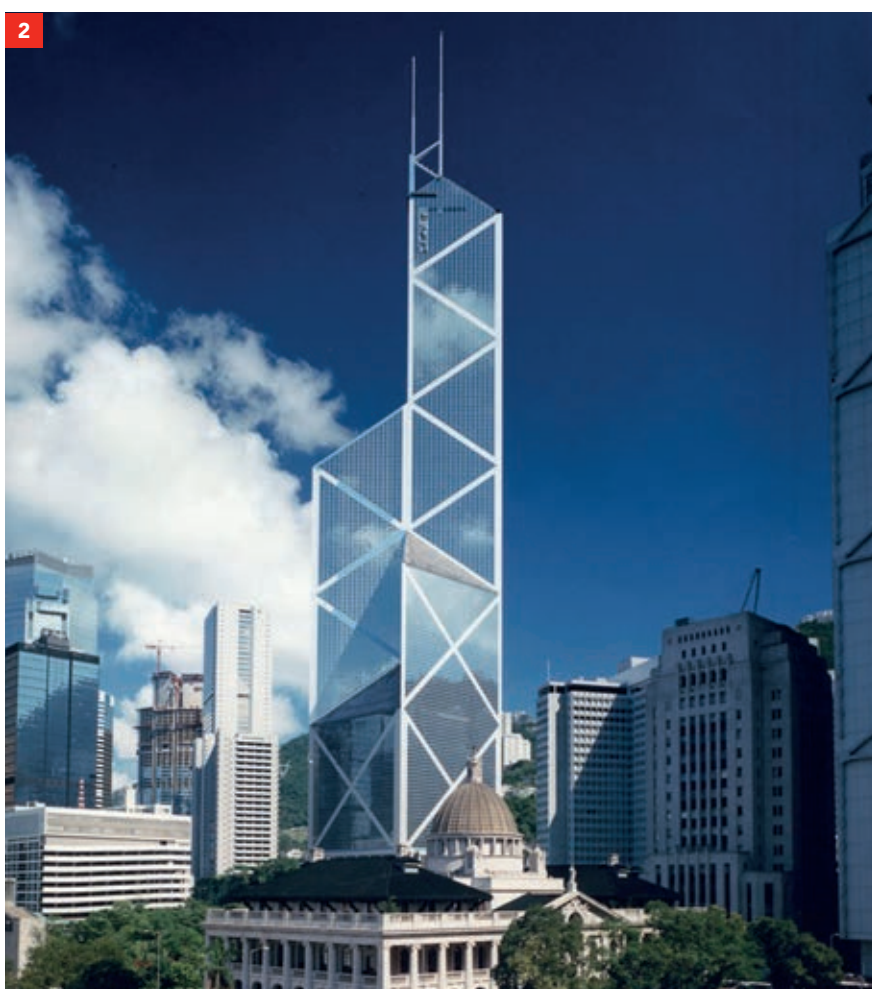
Meinhardt is responsible for the civil, structural and geotechnical consultancy services on this project. The proposed development will consist of two towers of 44 storeys and 34 storeys respectively, and a 7 level podium. Four historical buildings located in two areas within the site will be retained. Total GFA of 243,000 square metres.

**Client:** Hang Lung Properties

### 2. Bank of China, China

Meinhardt Hong Kong undertook the design of the sub-structure and foundations for this 70-storey commercial building. The superstructure was designed by Leslie E. Robertson Associates from New York. The 315-metre high superstructure provides 107,000 square metres of floor area with 3 basement levels underneath.

**Client:** Bank of China





3



4

### 3. Hong Kong Science Park Phase 2, Tai Po, Hong Kong

The Hong Kong Science Park Phase 2 covers approximately 20,000 square metres (site area) and 15,000 square metres GFA. The Park comprises ten seven-storey buildings including: energy towers, research and development offices, laboratory buildings, an oval-shaped auditorium, an amphitheatre, a services tunnel, link bridges, a swimming pool and a musical water fountain.

**Client:** Hong Kong Science and Technology Parks Corporation

**Services:** Civil, Structural, Geotechnical, Mechanical & Electrical Engineering

### 4. Express Rail Link Detailed Design for West Kowloon Terminus, Hong Kong

The West Kowloon Terminus is an underground station located to the north of the West Kowloon Cultural District. The footprint of the terminus is approximately 9.3 ha. Other associated works include public toilets, ventilation buildings and a primary traction sub-station.

**Client:** MTR Corporation Ltd

**Services:** MEP Engineering





**73**

storey  
residential  
tower

**260,000**

square metres of  
mixed-use space

**305**

metres in height

**US\$900**

construction  
cost

**12**

storeys of super  
luxury hotels

**Client:** Country Group Development PLC

**Completion:** 2018

**Architect:** Hamiltons International /  
Dhevanand Architects

**Services:** Civil, Structural, MEP  
Engineering, Design and Façade Consultant







## LANDMARK WATERFRONT DEVELOPMENT

Bangkok, Thailand

Four Seasons Private Residence is an iconic 73-storey residential tower standing 35. metres tall and covering more than 14 acres of prime real estate. Located on one of the last remaining plots for the riverside development, this unique site is designed to become the most exclusive residential address. The area will be transformed into a combination of hotels and residential buildings with lush tropical gardens to provide a distinct resort-like ambience.





### 1. Magnolia Ratchadamri Boulevard, Thailand

Meinhardt provided civil and structural engineering design for this 60-storey iconic building, offering full scope of services from Initial Concept Design through to project realisation. The development comprises luxury five-star hotel and condominium. The project stands at 232 metres above ground and includes three basement levels for car parking and mechanical, electrical and plumbing plant. The Magnolia Ratchadamri Boulevard includes retail and hotel amenities in the podium area.

**Client:** Magnolia quality Development Corporation Co Ltd

**Completion:** 2014

**Construction Cost:** THB 5,000 million

**Total GFA:** 110,000 square metres

**Total Height:** 232 metres

**Number of Storeys:** 60 storeys

**Services:** Civil, Structural Engineering and Façade Design

### 2. The River, Bangkok, Thailand

'The River' is a freehold condominium project consisting of two 74 and 45-storey towers linked by a common podium. At 258 metres, the taller of the two towers is currently Thailand's second tallest building. This landmark development includes extensive recreational facilities that take full advantage of its premier location on the banks of the Chao Phraya River.

**Client:** Raimon Land Public Company

**Completion:** 2012

**Construction Cost:** US 150 million

**Services:** Civil, Structural Engineering and Lighting Design







3

### 3. Millennium Residence, Thailand

Millennium Residence has changed the skyline of Bangkok's Sukhumvit residential area with its four stunning 50-storey condominium towers overlooking Bangkok's largest lake. Meinhardt carried out the civil & structural and mechanical & electrical designs for this 150,000-square metre development.

**Client:** Recap Development Ltd

**Completion:** 2010

**Construction Cost:** HK 1,100 million

**Total GFA:** 150,000 square metres

**Total Height:** 200 metres

**Number of Storeys:** 50 storeys

**Services:** Civil, Structural, Mechanical and Electrical Engineering Design



4

### 4. Marriott Bangkok Sukhumvit Hotel & Executive Apartments, Thailand

The 33-storey development consists of a 4-storey podium and tower accommodating serviced apartments and a luxury hotel built over a three level basement.

Meinhardt was responsible for civil, structural, mechanical and electrical engineering design for this exciting new development.

**Client:** Benchasiri Park Property Co. Ltd

**Completion:** 2013

**Construction Cost:** Baht 2 Billion



**73**  
storey  
residential  
tower

**430**  
apartments of 1,2  
& 3 bedrooms

Slender building  
with a height to  
depth ratio of  
nine



**Client:** PDG Corporation, Schiavello Group  
**Completion:** 2015  
**Architect:** Disegno Australia & Elenberg Fraser  
**Services:** Structural Engineering







## ABODE318

Melbourne, Victoria, Australia

Abode318 is a 55-level tower accommodating 430 1, 2 or 3 bedroom apartments. This is an extremely slender building with a height to depth ratio of 9. Wind tunnel testing indicated that a tuned mass damper may be required to prevent unacceptable horizontal accelerations, associated with extreme wind events. By optimising all of the building elements in the computer model – including car park ramps – Meinhardt were able to stabilise the building adequately to avoid this scenario. On completion Abode318 will achieve a 6.5 star energy rating.





**1. LaTrobe Institute of Molecular Science,  
Victoria,  
Australia**

This \$93-million building is a world-class facility for molecular science, biotechnology and nanotechnology research, teaching and learning. The project comprises approximately 11,000 square metres of new teaching and research laboratories over six levels, including associated support spaces, a ground level lecture theatre and 'equipment barn'. The upper three levels feature research laboratories and associated academic and general staff office spaces. Integral to the design and construction has been the extensive use of concrete in a variety of forms, which has delivered many benefits to the project's outcome.

**Client:** LaTrobe University

**Architect:** Lyons Architect

**Services:** Structural, Civil & Facade Engineering

**2. Prima Pearl, Melbourne,  
Australia**

The project involved the development of a prestigious 69-level apartment tower poised to become a modern icon of refined living.

The complex includes an indoor swimming pool, sauna, spa and gymnasium, private cinema, lounge and library, virtual golf driving range and sky lounge.

The site is relatively small, with dimensions of 55 by 50 metres. One of the main structural challenges associated with this slender building has been to produce a structure with enough structural stiffness to mitigate building movement without compromising the building's saleable area. This ensures the greatest return on the developer's investment.

**Client:** PDG

**Services:** Structural Engineering







### 3. RMIT Swanston Academic Building, Australia

The complex geometry of the building envelope, which has no straight walls, required us to combine technical know-how and creativity to deliver a buildable façade solution. At over A\$200 million, the Swanston Academic Building is the largest construction project ever undertaken by the Royal Melbourne Institute of Technology (RMIT).

To meet the client's desired sustainable credentials, our design for the high-performance façade includes external angular-shaped sunshades, internal blinds and double-glazed units, which will help reduce building running costs. The 35,000 square metre, 11 storey building contains highly advanced, sustainable teaching and learning facilities. Key features include balconies from the two-storey cantilevered student social space overhanging Swanston Street to a further nine, double-height student portals for informal study and collaboration.

**Architect:** Lyons Architects  
**Contractor:** Brookfield Multiplex

### 4. 568 Collins Street, Melbourne, Australia

A new 68-level office and residential tower located in the heart of Melbourne's CBD.

With plan dimensions of 30 by 40 metres, the site is very small for a building of this height. The design challenge has been to create a solution that is structurally, architecturally and economically viable. The engineering features include: a retention system without temporary ground anchors to avoid potential damage to surrounding services, and the use of outrigger walls at two levels of the building to increase stiffness in the slender east-west direction. Meinhardt has incorporated post-tensioning in these heavily stressed elements to reduce the amount of reinforcement required in order to simplify and speed up construction. Should testing of the near-completed building show that additional damping is required, provision has been made for a tuned liquid damper tank at the top of the building to reduce accelerations under wind load.

**Client:** Stamoulis Property Group  
**Services:** Structural, Civil & Facade Engineering





Meinhardt's award-winning projects have garnered international recognition. Our awards serve to affirm our unrivalled reputation for innovative and inspiring engineering solutions.





**60**

Green Mark Awards  
\_ 30 Platinum  
\_ 22 Gold Plus  
\_ 17 Gold

**55**

Construction Awards  
\_ 41 Excellence  
\_ 14 Productivity

**18**

Best Buildable Design

**20**

Design & Engineering Safety Excellence

**12**

Architectural Design Awards

**10**

BCA Universal Design Awards

**10**

FIABCI Awards

**04**

Singaporean President's Design Awards

**02**

CTBUH, Honorable Nominee for Best Tall Building Awards

**10**

Built Environment Leadership Gold Class Multi Disciplinary Category Awards

**01**

BCA BIM Award (Gold)

**350+**

awards globally

568 Collins Street Tower Melbourne, Australia

One Raffles Place Singapore

KL118 Tower Kuala Lumpur

Ocean Heights Dubai, UAE

The Dubai Mall Dubai, UAE

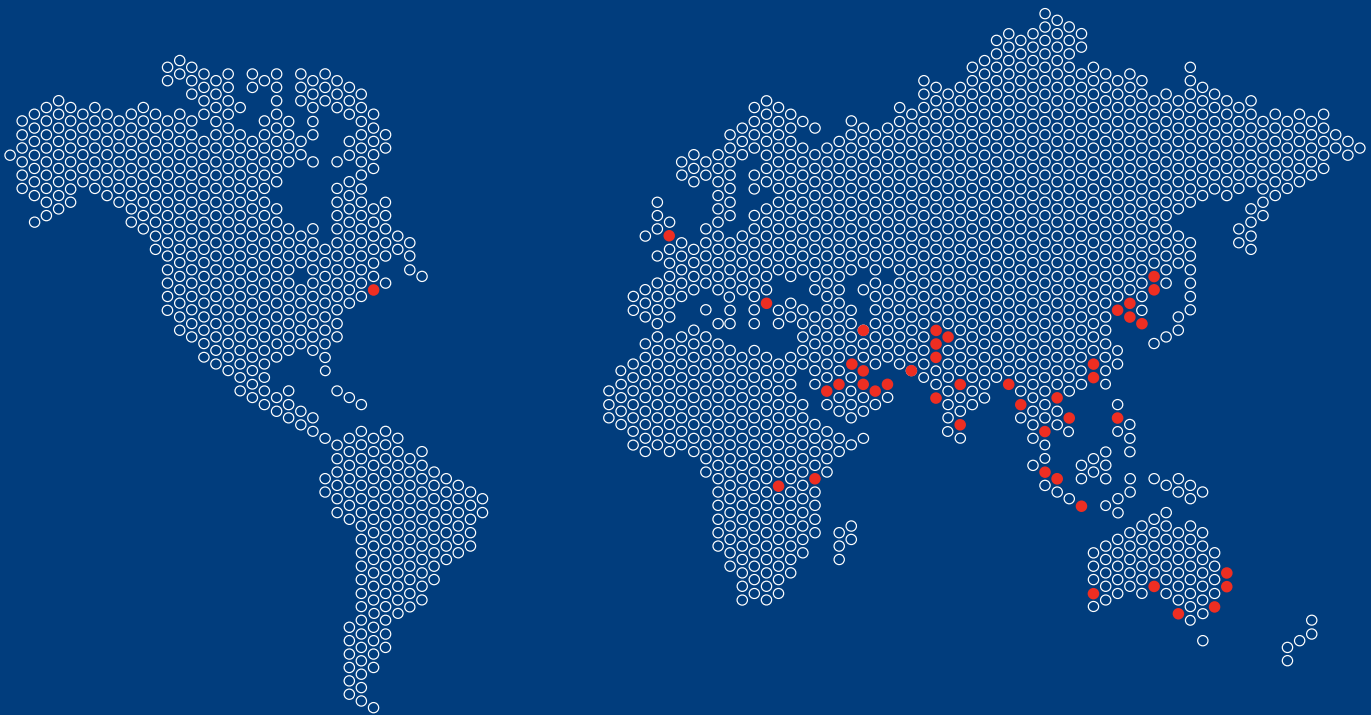
IFC Project Wu Xi China

One Island East Hong Kong

Thamrin Nine Jakarta, Indonesia

Nairobi Tower, Kenya





#### UK OFFICE

##### Meinhardt UK Limited

10 Aldersgate Street  
London  
EC1A 4HJ  
T: +44 (0) 20 7831 7969  
E: info@meinhardt.co.uk

[www.meinhardt.co.uk](http://www.meinhardt.co.uk)  
[www.meinhardtgroup.com](http://www.meinhardtgroup.com)

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