

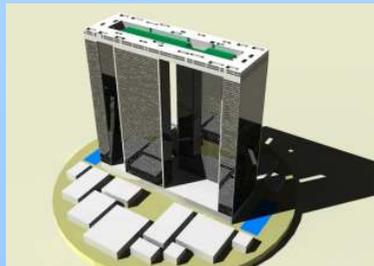


DUBAI PEARL

Location
Dubai, UAE

Building type:
New office building
Multiple use including office, residential and retail

- Features**
- 70+ storey complex
 - 4 towers with interconnecting crown
 - LEED-CS Gold (target)
 - High performance facades



The project

The Dubai Pearl development is a complex circular site and supports an urban mixed use project covering the entire site of approximately 160,000 m² comprising a podium containing car parking and essential building infrastructure.

Located upon the podium is a shopping centre and high rise towers, comprising office, hotel and residential uses.

The Pearl project is a vision of a building complex and forms a prominence and important town like an island of exceptional quality, in a central location at the foot of the Palm Jumeirah between Old Dubai and Dubai Marina.



Image: Schweger Assoziierte GmbH



LEED-CS Accreditation Gold (target)

The Meinhardt Building Science Group (MBSG) were the LEED consultants for the Dubai Pearl project.

To achieve LEED accreditation, energy efficient and environmentally sustainable aspects must be implemented into the design of the building from the early stages.

MBSG have been an integral part of the sustainability design as well as providing coordination of the LEED submission process.

MBSG's LEED Accredited Professionals investigated sustainable design aspects including:

- high performance facades,
- GeoExchange thermal piles,
- high efficiency district cooling plant,
- maximising wind power utilising building form,
- integrated building photovoltaic power,
- enhanced natural lighting and energy efficient lighting control &
- grey water treatment and re-use.

High efficiency district cooling



Water collection and reduced use strategies



Recycled material use and reduced construction waste



High levels of indoor environment quality



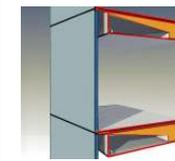
Designing Pearl

The Meinhardt Building Science Group (MBSG) used the latest in computer modelling and simulation techniques to not only assist in the design of the Pearl project, but to also show compliance with the LEED-CS requirements.

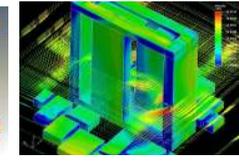
The MBSG engineers and scientists undertook the design work which included:

- thermal and energy modelling to assist in the design of the facade and the HVAC systems,
- natural light modelling for facade design and
- computational fluid dynamics (CFD) for ventilation and fire safety design.

Thermal modelling of the building facade



CFD for airflow analysis



Natural light modelling within the building

