

A DAZZLING RAIN OF LIGHT



LOUVRE ABU DHABI UAE

Pritzker Prize award winning architect Jean Nouvel had a vision to create a unique 'rain of light' under the dome of Louvre Abu Dhabi. The objective was to create a complex filter for the bright desert sun, initiating a dancing interplay between light and shadow around the galleries, plazas and reflecting pools.

Over the ten year project, BuroHappold Engineering worked with Jean and his team in Paris, as well as on site in Abu Dhabi. The complexity of engineering the 'rain of light' was monumental, and the ever-changing dappled effect of light under the dome of the Louvre is truly dazzling, never failing to deliver a sense of awe.

The Louvre buildings appear to float in the shallow inshore waters of the island's coastline. Two basements house support facilities that lie beneath the waterline, with the galleries and exhibition halls above water. The dome is open to the elements, and it was important to have more natural light directed over the galleries, with more shadow over the pools and public walkways.

Our experts tracked the path of the desert sun over the museum site for 365 days to understand the characteristics and exact angles of light. Subsequently, the teams built a scale model section of the dome to test various design proposals. This allowed us to determine the best configuration of geometric elements and materials to use to create the right temperatures, levels of light and shade, as well as orchestrate the dynamic 'rain of light'.

Special glass was installed in the windows and ceilings of the galleries to ensure the artwork would be protected from the damaging effects of direct sunlight. There are three layers of automated blinds built into the glass to moderate the light in correlation with seasonal change and weather.

The motto of the Louvre Abu Dhabi is 'see humanity in a new light'. This project inspired and challenged BuroHappold in exciting ways and we are privileged to have helped create this extraordinary museum.

CLIENT

The Tourist Development and Investment Company of Abu Dhabi (TDIC)

ARCHITECT

Ateliers Jean Nouvel (AJN)

PROJECT VALUE

Confidential

DURATION

2007 - 2016

SERVICES PROVIDED BY BUROHAPPOLD

Structural engineering, building services engineering, civil engineering, coastal and maritime engineering, ground engineering, environmental consultancy security and technology, acoustic design, fire engineering, project design management, lighting design, facade engineering, SMART space