

## Al Haram Mosque Mecca



### Location

Mecca, Saudi Arabia

### Built

international competition 2008, 1st prize Execution: 2008

- GFA: 420,000 sqm Green Building: passive building

The number of pilgrims during the annual Muslim Hajj to Medina (Madinah) and Mecca (Makkah), the most holy sites of Islam in Saudi Arabia, is growing rapidly – a situation which demands urbanistic and architectural changes on site. The “King Abdallah Grand Expansion Project” of the Al Haram Mosque in Mecca, the biggest mosque in the world, aims to increase its capacity to 1,500,000 pilgrims. Currently maintenance and rescue services are not well organised. Thus the number of people being able to perform the Tawaf (circling) and Sa’ee (ritual walk) is limited. Also luggage and sanitary services are not sufficient or not easy to reach. The planned extension, which is only the first of several future additions, foresees an extension of the pilgrims’ facilities into the nearby valley and the hills north of the Al Haram Mosque. This expansion presents a unique opportunity for the sustainable development of an iconic building of exceptional scale. ingenhoven architects made a ground-breaking proposal for this expansion as part of an international design competition in 2008. The proposal is based on a cluster of canopies providing shade for people, plazas and buildings while reducing the heat island effect. Retractable canopies allow for natural cooling and prayer under the starry sky and protect pilgrims from the hot sun during daytime. While retaining the existing building, a circle with a radius of 660 m was drawn around the Ka’aba, defining the new outer edge of the site dedicated to the Al Haram Mosque. As the existing building must function without interruption during construction and all entrances should remain accessible, the proposed solution does not put any additional pressure on

the existing Mosque. A portion of the canopies could incorporate thin film PV-panels to generate electricity. As small, singular elements, these umbrellas also hinder the view towards the high rise buildings in the distance, allowing for spiritual contemplation without visual disturbance. The traffic and crowd management concept is based on the outer courts at the main access points, a large passage in the north and the architectural clarity of the buildings. Escape stairs avoid any vertical offsets of the single levels. Since the al-Haram mosque is the largest mosque in the world, the architects created a design suitable for the climate and culture of Saudi Arabia and the significance of the site.

## Awards, Nominations

## Team

### Client

Ministry of Higher Education of the Kingdom of Saudi-Arabia

### Architect

ingenhoven architects, Düsseldorf

Christoph Ingenhoven, Ben Dieckmann, Martin Reuter, Jan Lorenz, Jürgen Schumann, Moritz Krogmann, Kilian Kresing, Majd Abosamha, Peter Pistorius, Tessa Zaune

### Structural Engineering

Werner Sobek Stuttgart GmbH & Co. KG, Stuttgart