

Aldar Central Market, Abu Dhabi Norman Foster + Partners

Abu Dhabi's historic Central Market has been transformed into a dynamic new quarter with markets, shops, offices, apartments, and hotels. One of the oldest sites in the city, Central Market is a reinterpretation of the traditional marketplace and a new civic heart for Abu Dhabi. The project comprises a combination of lower-rise, ecologically sensitive levels of retail roof gardens—forming a new public park—and three towers.

Using the Adaptive Building Initiative's Permea™ system, Hoberman Associates developed several exterior shading roofs in three public squares within the retail complex.

The kinetic design works off of an operable grid. In its covered configuration, the shading roof resembles a traditional coffered Islamic roof. When retracted, the roof becomes a slender lattice that complements the Foster team's designs for fixed shading.

Roof system construction and testing for the first public square completed in Spring 2010 and opened to the public in Fall 2010. Additional public squares are currently under construction.



1. Roof system closed. Panels fully stretched out, shading interior spaces.



2. Roof system start to interact. The panels move parallel to the building's surface, allowing its layers to be completely hidden when retracted.



3. Roof system fully open, allowing sunlight to penetrate brightening interior spaces. Each unit is driven by a servo motor with custom array control.