



QUEEN ALIA AIRPORT JORDAN

BuroHappold Engineering was involved in the development of the new Queen Alia International Airport from the outset of the project, working in conjunction with Foster + Partners architects to develop a striking, over-arching roof structure under which the new terminal could operate. With engineering and architectural design running in parallel from such an early stage, we were able to devise a structure that combines engineering excellence with breath taking architectural beauty.

The airport has a highly efficient passive design, which has been inspired by local traditions, and is based on a flexible modular solution that allows for future expansion. In response to Amman's climate, where summer temperatures vary markedly between day and night, the building is constructed largely from concrete, the high thermal mass of the material providing passive environmental control. Two piers of departure gates run along either side of the central building, which contains the main processing areas and shops, lounges and restaurants.

Between these volumes, open air courtyards contribute to the terminal's environmental strategy: the plants and trees help to filter pollution and pre-condition the air before it is drawn into the air handling system and reflecting pools bounce indirect natural light into the airport.

The roof structure comprises a series of shallow concrete domes, reminiscent of giant palm leaves, that are anchored to concrete pillars which support the full weight of the roof. The strength of the stems, which taper out from the supporting pillars, is such that large openings could be set within them, allowing the bright sunlight to permeate the roof.

BuroHappold also collaborated with Foster + Partners to write the employer requirements for this project.

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AIG Group

ARCHITECT
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PROJECT VALUE
Confidential

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Structural engineering, building services
engineering (MEP), sustainability