King Abdulaziz International Airport (KAIA) in Jeddah is Saudi Arabia’s third largest air facility, occupying an area of 102 km². Jeddah is close to Islam’s holy cities of Mecca and Medina and the Hajj terminal, built especially to handle the enormous number of people travelling to the region to take part in the annual pilgrimage, is world-renowned. Up to 14.2 million passengers pass through the airport every year.

The site posed a number of issues for the BuroHappold team, not least improving the existing airport’s outdated waste management practices. We had to find effective and environmentally sound ways of disposing both aircraft waste and waste from the large Hajj terminal, as well as the means to integrate these solutions within Jeddah’s wider infrastructure. The methods we devised had to meet numerous strict LEED requirements, including separation of waste into three streams and its safe storage within the main passenger terminal.

Our team prepared a site-wide solid waste management plan (SWMP) that would be used to inform the development of the waste strategy through all three phases of KAIA’s development. The SWMP estimated a waste generation rate for the expansion, consolidated waste management strategies – including waste flow and storage in all new buildings and set out a site-wide waste collection strategy.

In addition, our comprehensive SWMP also provided an assessment of options for treatment of the airport’s waste including an on-site waste processing centre that includes an incinerator, a materials recovery facility, an in-vessel composting facility and a construction and demolition waste processing area.

BuroHappold Engineering also prepared the waste management chapter for the environmental impact statement (EIS), detailing the impact of waste management during construction. In conjunction with the SWMP, this provided our client with a robust and future-proofed strategy for the redevelopment and expansion of KAIA right through to completion in 2035.