

HOLISTIC TERMINAL CAPACITY ASSESSMENT



Confidential



Saudi Arabia



Terminal Capacity Review



2024 / 2025



KEY OUTCOMES:

- Assessment of future terminal throughputs
- Identification of operational bottlenecks
- Definition of spare capacity levels

THE NEED:



- The project focused on assessing the capacity of the upgraded terminal facilities (arrivals and departures) and stand capacity, in relation to historical peak demand levels
- It considered various infrastructure utilisation scenarios and tested alternative passenger flow options
- The ultimate objective was to understand the available spare capacity and to estimate the additional demand volumes that could be accommodated beyond historical peak levels

THE APPROACH:



- Data collection and development of relevant inputs for areas where performance data was not available from the client
- Development of a holistic terminal simulation model, incorporating multiple versions to reflect seasonal variations in passenger flows
- Analysis of historical demand levels and the capacities delivered by the upgraded terminal facilities to determine the available throughput surplus
- Creation of operational schedules representing the maximum feasible levels of flight and passenger demand that could be supported, based on the terminal checkpoint throughput

THE SOLUTION:



- Definition of throughput and capacity for each checkpoint along the passenger journey
- Development of a series of customised simulation models, reflecting flexible infrastructure allocation scenarios to address passenger demand seasonality
- Assessment of forecasted terminal performance against industry recommendations for passenger queue times and queue lengths

