

Dubai International Airport

A baggage handling system for the gate to the Arab world



**Success Story –
major hub between Europe and Asia**

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SIEMENS

The customer:

Dubai International Airport was established in 1959 and is operated by the Department of Civil Aviation. Considered as one of the busiest and fastest growing airports in the world, Dubai International Airport is also recognized as the aviation hub of the Middle East. It is located in the Garhoud District, four kilometers southeast of Dubai. The airport serves up to 40 million passengers per year and 120 airlines with over 200 destinations.



The challenge: Expanding the airport for a continuing rise in the number of passengers

In 2002, Dubai International Airport handled 15.9 million passengers. By 2007 this figure had grown to 33 million. To cope with a continuing rise in the number of passengers over the coming years, the Department of Civil Aviation decided in 2003 to expand the airport. Siemens completed the new Terminal T3/ C2 by December 2008.



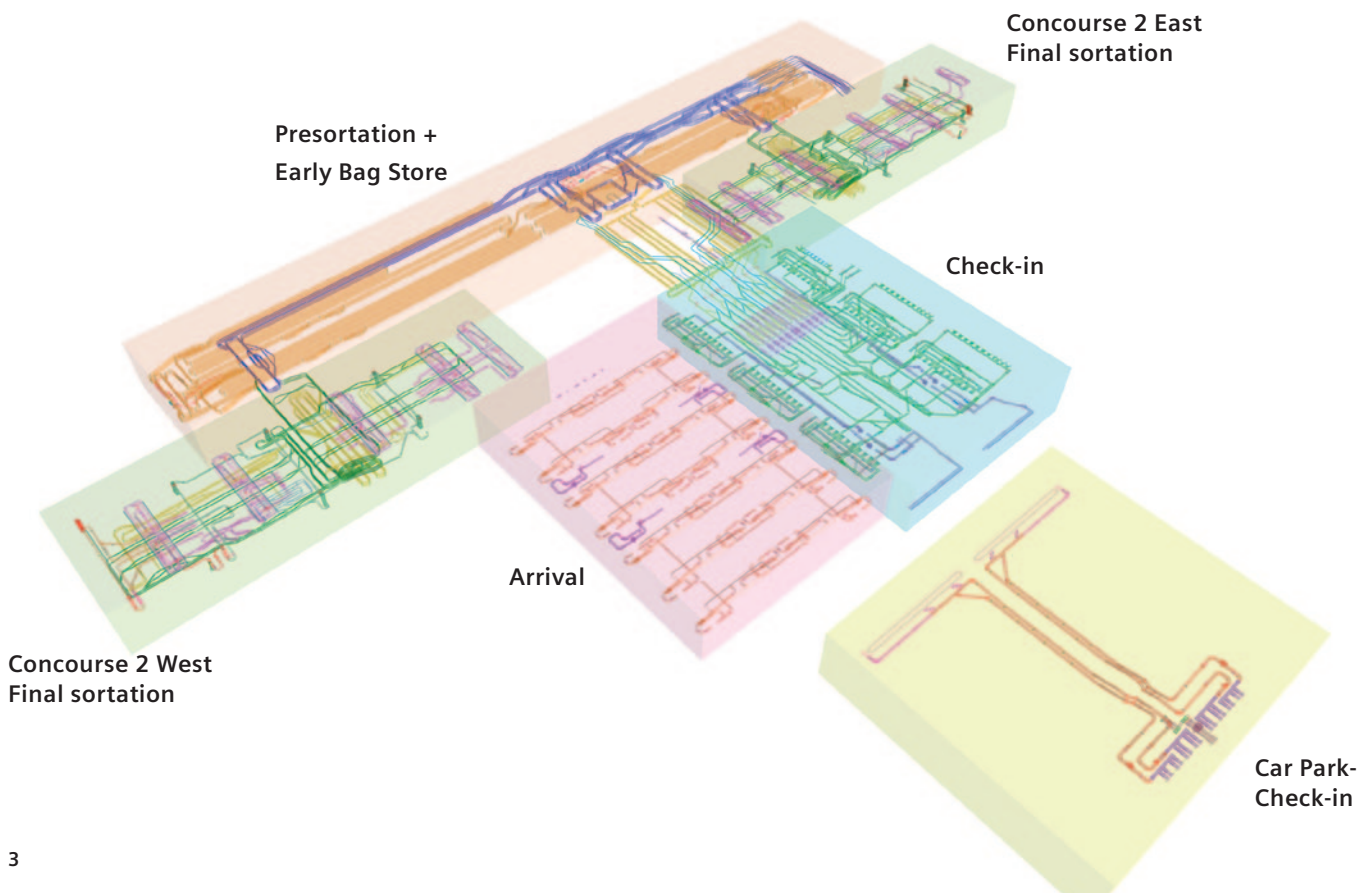
The goal is reached: With optimized baggage logistics Dubai is now ready for the future

With over 1,500,000 m² of space, Dubai's new Terminal 3 is one of the biggest terminal buildings in the world. It is located beneath the taxiway area at the airport and is directly connected to Concourse 2. The shape of Terminal 3 resembles an aircraft wing and is one kilometer long. Terminal 3 includes a multilevel underground structure, business class lounges, restaurants, 222 check-in counters and an underground car park for 2,600 cars.

New baggage handling system adapted for the needs of the future

Dubai International Airport now benefits from optimized baggage logistics, perfectly adapted to specific requirements, comprehensive services plus high cost efficiency over the entire lifecycle.

Based on advanced Siemens technology, Dubai International Airport is now ready for the future.



Key figures at a glance

The scope of the new baggage handling system is apparent just from the number of devices and components installed. Despite – or perhaps because of – the extreme complexity of the project, rapid transport within the airport and to connecting flights is possible even under difficult conditions, such as inclement weather.

When flights are delayed due to snow or high winds, for example, baggage can still be forwarded quickly and reliably to connecting flights and baggage claim areas even during the consequential peak times thanks to the flexibility of the baggage handling system.

Conveyor belt system:

17,000_m

High-speed system:

46,000_m

Check-in counters:

222

Make-up carousels:

21

Sorting capacity per hour:

15,000_{pieces}

Operational maximum speed:

7.5_{m/s}

Baggage claim carousels:

14

Number of PLCs (S7-400):

124

Drives for baggage handling:

10,702

RFID read/write stations for
100% accurate tracking:

800

Barcode scanner normal and
self-service check-in:

51

Transfer piers:

24

Our solution:

800 RFID read/write stations care for 100% accurate tracking of up to 15,000 bags per hour

With conveyor lines totaling 90 km in length, the new baggage handling system at Dubai International Airport is one of the largest and also one of the deepest installed underground baggage handling systems. In order to provide sufficient maneuvering space for aircraft operations, the entire system is located beneath the taxiway area. High-speed conveyors transport the items of baggage in individual trays, which permits better control at high speeds and leads to quicker passenger check-in and 100% accurate baggage tracking.

Fast baggage throughput

Fast baggage throughput is essential in order to meet the minimum connecting time of 45 minutes. The new baggage handling system at Dubai International Airport achieves a maximum speed of 7.5 m/s and can handle up to 15,000 bags per hour. Thanks to the Siemens tray conveyor system, baggage handling is fast, safe and smooth. Some 800 RFID

read/write stations for 100% accurate tracking are integrated. All systems control, sensor and motion elements are based on Siemens solutions and interact optimally.

Furthermore, all functions and routings are fully redundant, allowing for unprecedented failure tolerance. Siemens' integrated technology for drives, motor control, sensor interfacing, power and data management leads to a clean design with added value for system operation and maintenance. Two fully equipped control rooms ensure that the system can handle any unexpected failures.

Sophisticated IT system

A sophisticated IT system also had to be designed and installed. The success of this high-performance solution was ensured thanks to feasibility studies and 3-D planning, the regular exchange of ideas and know-how as well as close cooperation between all stakeholders

and thorough implementation.

Comprehensive services

At the time of the official opening, Siemens was assigned operative responsibility for the entire baggage handling system for two years. A Siemens team of 400 specialists handles all operation and maintenance services 24/7 all year round. Using state-of-the-art software they provide continuous improvement in operational performance and ensure smooth operation at all times.



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Order No.: E10001-ALBL-A17-V1-7600
Printed in Germany
Dispo No.: 12212 K Nr.: 1222.
GB 090526 312536 09093.
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