



Daifuku Airport Technologies

Case Study

LaGuardia Airport

Central Terminal Replacement

Challenge

In 2015, the Governor of New York State outlined a vision to transform LaGuardia Airport into a modern, world-class facility. Valued at a total of \$5.1 billion, this project was led by LaGuardia Gateway Partners and served as the largest public-private partnership in US aviation history. In spring 2017, Daifuku Airport Technologies joined the project as the design-assist contractor for the building's new baggage handling system (BHS) under the joint venture of Skanska and Walsh Construction.

As a busy airport with a very tight footprint, the project effectively required the construction of a new facility on top or alongside the existing operations, without losing operational capability. Furthermore, the airport's passenger volume was steadily increasing during construction.

Primary drivers:

- Replacement of existing central terminal, which was built in 1964 to accommodate only eight million passengers per year
- Transform and unify the airport into a modern, world-class facility

Key requirements:

- New facility (greenfield) construction alongside existing operation
- Maintain existing operations with no disruptions to service

\$77 million

investment in Terminal B's baggage handling system



Solution



Daifuku Airport Technologies provided a full outbound and inbound BHS to serve the needs of the new terminal.

The outbound BHS features multiple input lines, a new full-service Checked Baggage Inspection System with five CTX 9800 in-line EDS machines, and a separate oversize Checked Baggage Reconciliation Area (CBRA). The inbound BHS includes nine slope-plate claim devices with single feed lines and two oversize lines.

Daifuku provided 67 Mobile Inspection Tables (MIT) and 26 search stations for the CBRA. The MITs are robotic vehicles which deliver bags directly to TSA agents.

Bags are searched directly on the MIT's stainless-steel surface and routed automatically back to the appropriate conveyor after inspection.

Equipment Provided:

- 1,200 new conveyors and drives
- 67 Mobile Inspection Tables (MIT)
- 26 MIT search stations
- 5 CTX 9800 EDS Machines
- 9 slope-plate claim devices



Benefits of MITs over traditional CBRAs:

- Reduced operating costs
- Adaptable design
- Ergonomically beneficial
- Energy efficient
- Bag prioritization
- Meets industry standards

67 Mobile Inspection Tables installed

The Mobile Inspection Table is designed for use inside of the CBRA as a replacement for traditional belt conveyors and static search tables.

The MITs for this installation showcased natural feature guidance, a newly designed enhancement to our traditional vehicle.

Instead of relying on magnetic tape, wires, or navigation marks, the new MIT is able to map and calculate its position relative to its surroundings. This technology allows for easy adaptation to changing demands and infrastructure.

LaGuardia now showcases Daifuku's first installation of the MIT with the redesigned guidance system in an airport environment.

Outcome

The Arrivals and Departures Hall of the redeveloped Terminal B opened its doors to the public in the summer of 2020. The new terminal and baggage system will have the capacity to handle 17 million passengers a year, approximately 50 percent of the airport's total passenger volume.

The 1.3 million square foot building is part of the overall construction project of a modernized LaGuardia, which will be the first new major airport in the United States in more than 25 years.

LaGuardia Airport is home to the first installation of Daifuku's Mobile Inspection Tables with newly designed natural feature guidance.



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