



How Dallas Love Field Airport improved its checked baggage resolution area by investing in RFID tracking from SICK

Features and Benefits

- Enhanced flow of baggage handling system
- Improved work conditions in Checked Baggage Resolution Area
- Reduced worker lift injuries
- Eliminated unidentified baggage
- Improved baggage tracking capabilities

Industry Group: Solutions Community



The RFID tracking system installed at Love Field provides a more efficient and cost-effective way to ease congestion in the CBRA area.

Background

Dallas Love Field (DAL) airport was having issues with congestion in its Checked Baggage Resolution Area (CBRA). In late 2018, they implemented an \$8.8 million renovation to help. This renovation included infrastructure for a Radio Frequency Identification (RFID) system that enables airport employees to track baggage as it moves through the airport.

In addition, looking beyond traditional fixes, the project team deployed Mobile Inspection Tables to speed the area's flow and improve conditions for the TSA personnel who work there. These automated guided vehicles can drive themselves to and from an inspection station, eliminating the need for a TSA agent to lift and move heavy baggage.

With the ultimate goal of eliminating unidentified baggage, Love Field is preparing for the future. The airport has laid in the infrastructure to support a much greater use of RFID within the airport.

Challenge

Managing baggage around the airport was fairly hectic due to the sheer volume of flights and the limited amount of space. Often, on a daily basis, they are doing more than 10 flights per day per gate.

This level of volume is not conducive for baggage handling. For instance, when a plane is reassigned to a different gate, there is a chance the associated bag cart could miss the reassignment. With RFID readers, the airline can more quickly and efficiently determine the appropriate location for bags.

Like many other airports throughout the country, the main issue is that the baggage handling system was designed after the footprint of the airport terminal had been established. The screening activities of the baggage essentially happen in the basement of the building, which is hard to expand.

In addition, with the expiration of the Wright Amendment that limited flights out of DAL, volume jumped from 4.2 million enplanements in 2013 to 4.7 million in 2014 to 7.2 million in 2015. As you can imagine, this led to a large increase in baggage as well, which the airport couldn't keep up with and made the CBRA area a chokepoint at times.

Approach

Given how active DAL is, being able to track a bag's location throughout the system was an incredible customer service enhancement.

This was best accomplished through the use of an RFID system that could help to improve baggage flow and eliminate unidentified bags.

In addition, a solution was needed to accommodate the screening area and how to move bags from one location to another. This was accomplished with the use of mobile inspection tables.

Solution

With the new system, RFID tags are scanned as bags enter the handling system at curbside check-in and ticket counters. Next, bags will move to the security feed, where an array reads barcodes and RFID tags, and also checks dimensions to ensure they will fit through the explosives detection system.

From there, the bags move into the checked bag inspection system, where they are scanned, cleared, and pass by outbound scanning points with RFID and barcode readers for sorting to one of three makeup units. At the makeup units, RFID readers will scan the tags again, changing custody from the airport baggage handling system back to the airline, to be loaded on the plane.

This new system requires much less human involvement and mishandling of bags has reduced substantially by using RFID. By controlled testing, read rates for RFID tags can exceed 99%, while rates for barcode reading range from 93% to 97%, depending on the technology used. This means quite a few less bags are handled manually in an RFID system than a traditional barcode system.

In addition, an RFID system provides airports and airlines a better sense of baggage handling system performance. Stakeholders can use tracking data to see how effectively bags are processed through the system. If a bag is taking a long time in the reconciliation area that could be a big concern for both the airport and the airlines because bags won't make it to the flight in time.

On top of an RFID system, mobile inspection tables were installed to help with an increase in baggage volume. A conveyor system carries bags identified for manual screening into the CBRA and drops each onto a mobile inspection table. The mobile tables then drive themselves to an inspection station, where a TSA officer performs the necessary screening. Once the bag is cleared, the officer pushes a button and the mobile table takes the bag back for reinsertion onto a conveyor for cleared baggage.

SICK
Sensor Intelligence.

SICK, Inc.
6900 West 110th Street
Bloomington, MN 55438
800.325.7425
info@sick.com
www.sick.com