FEIG
ELECTRONIC

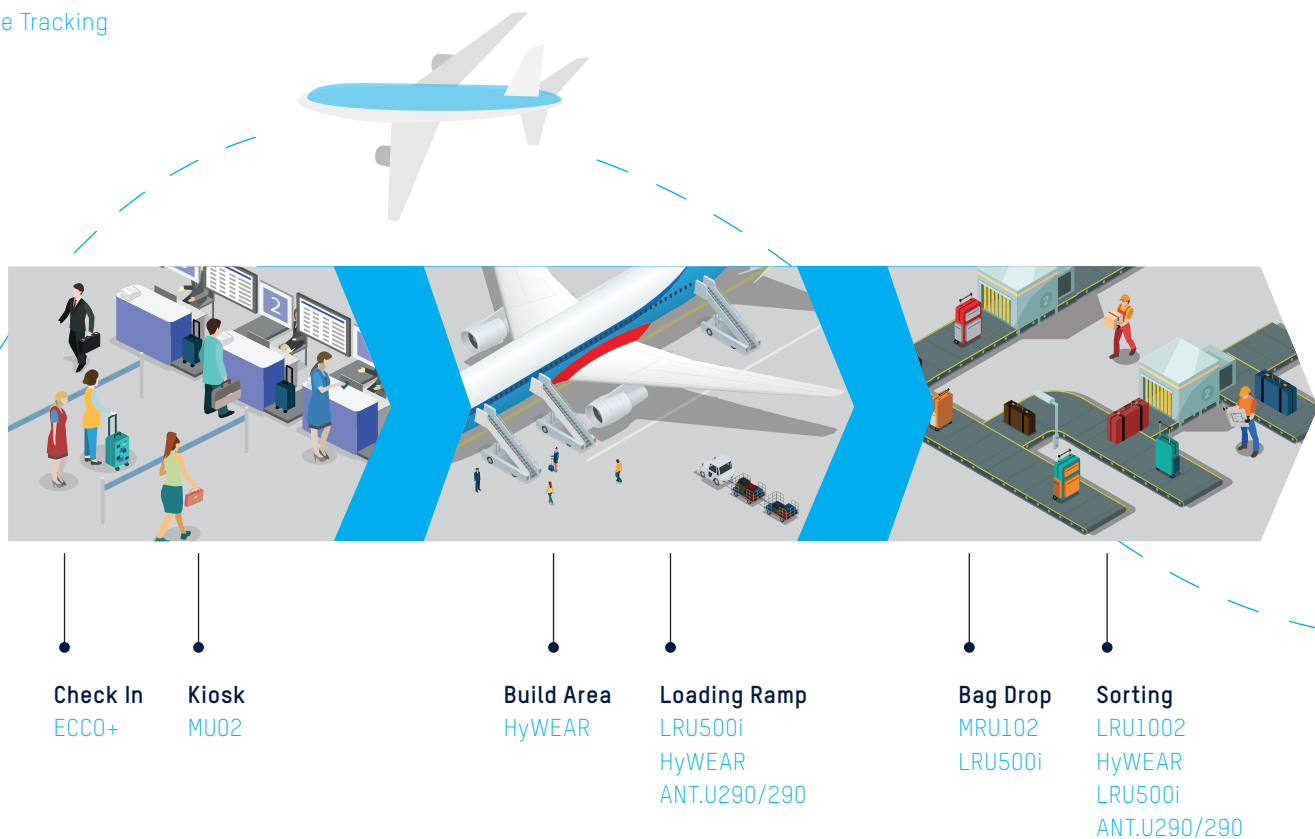# RFID + BARCODE BAGGAGE TRACKING TECHNOLOGY

> Comply with IATA 753 using the lowest cost solution

> Reduce baggage mishandling cost

> Enhance customer experience

> Increase throughput, decrease delays

> Implement a fast, easy, and reliable solution

Check In	Kiosk		Build Area	Loading Ramp		Bag Drop	Sorting
ECCO+	MU02		HyWEAR	LRU500i		MRU102	LRU1002
				HyWEAR		LRU500i	HyWEAR
				ANT.U290/290			LRU500i
							ANT.U290/290

FEIG ELECTRONIC offers products to track every link in the chain of custody to reduce cost and improve operational efficiency of airports and airlines.

# TRACKING THE CHAIN OF CUSTODY FOR CHECKED BAGGAGE

IATA Resolution 753 obligates airlines to monitor baggage from the point of acquisition at check-in, to loading onto the plane, through applicable interline transfers and final return to the passenger at the claim area in a formal electronic chain of custody that benefits more than four billion travelers annually.

The baggage handling challenge

› Approximately 9,965 lost bags per day in the U.S. alone

› For every 1,000 passengers, 5.73 bags are lost

› 26 million bags lost annually

› 95 % returned within 48 hours

› 5 % completely lost

› $2.1 billion dollars spent to reunite or compensate passengers

RFID benefits to Airlines

› Significantly higher read rates

› Greater read range and area of coverage

› Simultaneous capture of multiple and randomly oriented bags

› Decreased mishandling rate and associated costs

› Identify at-risk bags and reprogram tag to redirect delayed bags

› Fewer disruption to passenger experience

› Improved customer experience with bag location notifications
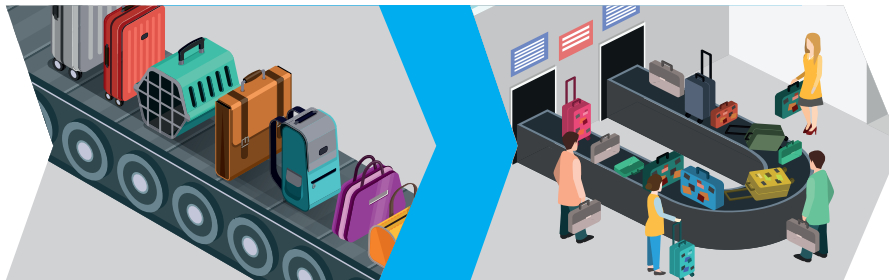
Transfer
LRU1002
HyWEAR
LRU500i
ANT.U290/290

Delivery
MRU102
HYWEAR
LRU500i

CHECKED BAGGAGE HAS BECOME A MULTI-BILLION DOLLAR PROFIT CENTER TO THE AIRLINES

U.S. airlines collected more than $4.5 billion dollars in checked baggage fees in 2017. While significant, the fees collected for checked bags is greatly diminished by the costs related to lost baggage. Reducing the cost to reunite bags to passengers while increasing operational efficiency and enhancing the customer experience increases bottom line profitability.

RFID's important features for tracking

› 99.9 % tracking accuracy

› Modify, add, and append additional information to the tag

› Greater speed, accuracy, coverage and memory size

› Easy to deploy read points at desirable tracking locations such as the bag room, cold storage, reroute areas or the baggage service office.

› Ability to quickly locate an individual bag from among many

DELTA BAGGAGE TRACKING MAKES RADICAL IMPROVEMENT IN CUSTOMER EXPERIENCE

Delta's Fly baggage tracking app set a new standard for the industry with more transparency and interactive tracking. The integrated system is based on an RFID chip that is embedded in the baggage tag. Passengers have the option to sign up to receive push notifications through Delta's Fly app that will alert them about the logistics of their luggage.

Delta hands-free baggage handling process is deployed in 344 stations worldwide of 4,600 scanners, 3,800 RFID bag tag printers installed, and integration of 600 pier and claim readers was an unprecedented $50 Million dollar investment by a single airline. FEIG ELECTRONIC'S PANMOBIL ECCO+ RFID/Barcode Scanner was part of Delta's baggage tracking technology solution.

ECCO+ MOBILE SOLUTION

Easily migrate to RFID with this hybrid barcode reader and RFID encoding tool that makes the transition possible without changing infrastructure, process, software or IT. Simply use existing printers to create bag tags with smart label stock. The ECCO+ reads the barcode and wirelessly echoes the data content encoding the identical information into the RFID transponder in accordance with the IATA process at a fraction of the cost otherwise involved in the transition.

› Certified in 58 countries

› Lowest cost to implement

› Continued use of existing equipment

› No software required, system and processes unaffected

› Mobile solution is available wherever and whenever needed

› Barcode and RFID coexists allowing the most modern technology to be used with legacy baggage handling systems

› Robust housing for use in harsh environments with legacy baggage handling systems

› Customizable cover

PANMOBIL | **FEIG** ELECTRONIC
portable solutions by

"FEIG Ecco+ has been such
an awesome help in our
operations where we don't
have printers that can
encode directly onto the chip. It's a
benefit to all airlines."

Dave Eastes,
Delta Airlines solutions architect

THE HyWEAR compact: WEARABLE SOLUTION

Increase ramp productivity saving up to three seconds per bag loading and unloading planes with the world's first wearable barcode and RFID reader/encoder versus a handheld reader. Worn as a fingerless glove, the small, lightweight device frees both hands for work. High capacity, swappable battery with smart power management extends operating life to up to ten hours and the unique compartment quickly attaches and detaches the HyWEAR compact from the fastener.

› Easy to operate and comfortably
worn

› Unrestricted freedom of movement
of both hands

› Eliminates time required to grab and
put away a traditional handheld
reader

› Wearable solution available wherever
and whenever needed

› Robust housing for use in
harsh environments

› Easily connects by Bluetooth or WiFi
to the airport system

› Barcode and RFID technology coexist
allowing the most modern technolo-
gy to be used for baggage handling
in the sorting and loading areas

› Multi-slot battery charger for spare
battery charging

FEIG ELECTRONIC STATIONARY READER SOLUTIONS FOR BAGGAGE TRACKING

FEIG ELECTRONIC stationary RFID readers seamlessly integrate and automatically capture bag transfers at each point in the chain of custody. Airline employees and baggage handlers simply do their job of checking-in, loading and unloading. Data streams produced by the RFID reader do the rest. Available in short range embedded modules for check-in kiosks, mid-range readers to automatically record tags moving along handling belts to industrial housed long-range readers for outdoor use on loading ramps.

Delta Air Lines has installed an infrastructure of fixed RFID readers at conveyors where bags are loaded onto and unloaded from planes throughout airports worldwide. That data not only helps the airline to ensure that no baggage is misrouted, but also enables it to send an update to passengers using the Delta app indicating the luggage's status, such as unloaded and available at the baggage carousel.

ANT.U290/290
ROBUST ANTENNA

Designed for continuous operation on the airport apron exposed to winter's worstfreeze to the summer's most intense heat, while withstanding the typical jolts, bangs and vibrations common to loading ramps and baggage handling conveyors.

› Highest available impact rating

› High performance in compact rugged package

› Optimized for reading baggage in different orientations

MRU102
MID-RANGE READER

Creates a well-controlled detection zone to capture RFID tags that are moved either manually through an area such as build area, cold storage, or baggage office, or automatically along a take away belt conveyor. Multiple antenna ports expand the area of coverage and the network interface connects the data stream to airport and airline systems.

› Performs both read and write functions to RFID tags

› Automatic scan mode detects tags immediately when placed in proximity to the antenna

› Simultaneously captures multiple tags placed in the field at the same time

LRU1002 LONG RANGE READER

Powerful, configurable, and rugged industrialized workhorse handles the most straightforward to the most complex reading task, from single read points for baggage sorting and loading ramps to wide area antenna arrays to capture larger volumes of tags loaded onto tugs in the build area.

› Multiple modes of operation optimized for fastest data capture rate

› Configurable as individual read points or antenna array with up to four antenna ports.

› Software adjustable read range up to two watts power

› Rugged die-cast housing, IP65 rated designed for harsh environments

LRU500i UHF COMPACT READER

Small, powerful, self-contained long-range reader with integrated antenna designed for rugged outdoor environments. Useful Stop/Go signal light provides visual feedback and relay outputs to stop loading belt or operate access control gate.

› Easy to mount and fast to deploy with any system

› Control read range with adjustable power level to 1 watt

› Controls multiple read points with additional antenna port

› Wiegand, serial and LAN interfaces

ANT.U500/270 DIRECTIONAL READER

Typically installed overhead to capture the bag's identification and appends the direction of travel to the data to provide an even better indication of location. Perfect to monitor bags moving in and out of hold areas such as cold storage or the baggage service office.

› No complicated set-up or calibration process with simple two cable installation

› Outstanding 3D reading performance

› Reader and antenna packaged in a single housing for fast and easy mounting

› International approvals

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