



# Motorola's Travel and Transportation RFID Solutions



## Business Challenges

Travel and transportation impacts a wide spectrum of industries. Commerce fails to occur when you do not move goods from point to point in the supply chain or move people around the world. The demand to transport assets faster, better, cheaper and ultimately safer, is greater today than ever before. As the cost of labor continues to rise and as companies look to implement additional safety and security provisions, more and more companies are looking to RFID to reduce errors and improve efficiencies.

## Travel

The travel industry is under constant pressure to improve customer service, safety and satisfaction while streamlining the process of passenger travel. A major challenge to the industry, both in customer satisfaction and security, is tracking passenger baggage. Meeting security measures for baggage matching can delay departures significantly, impacting cost efficiencies and customer satisfaction. In addition, every missing or mishandled bag costs an average of \$100 to replace or transport back to its owner.<sup>1</sup> Airlines in the United States handle approximately 500,000 passengers each day. For these airlines, approximately eight bags per 1,000 passengers are mishandled. At this level, the industry must locate, transport or replace 4,000 bags a day, times \$100 per bag at a cost of \$400,000 a day or \$146M a year. Applying RFID tags to passenger luggage in airport and airline operations enables automated tracking and sortation, increases per-bag read rates, and increases security — associating every bag to every passenger, and what may be more important, any bag not associated with a passenger. Imagine the cost reductions possible through the deployment of RFID solutions for this application alone.

“The primary reason for implementing RFID in aviation is operational efficiency to enable growth.” For Hong Kong Airport, “If one percent of the passenger bags went missing, rectifying the problem (now addressed by RFID) would cost \$17 million a year.”<sup>1</sup>

## Transportation and Logistics

Transportation & logistics providers are positioned between manufacturers, suppliers and the retailer. As globalization increases and the time and distance between the point of manufacturing and the point of consumption increases, so does the need for these companies to improve the efficiency of their operations, reduce costs and ultimately provide better customer service. With rising demands for the delivery of goods, transportation companies are looking

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Randall Walker,  
Director of Aviation,  
McCarran International Airport



Motorola's Cargo Tag is designed to endure 24-hour-a-day exposure to nearly any environment, enabling the travel and transportation industry to achieve cost-effective, automated and accurate tracking of transportation vehicles.

for faster and cheaper means of delivery, and increased and more accurate tracking capabilities. With fuel prices and labor costs on the rise in an increasingly competitive environment, many logistics providers are running on less than optimal fleet sizes and are struggling to get more from their transportation networks. RFID solutions for the transportation and logistics industry (including air, rail, water, truck, parcel/post delivery, transit, and pipeline) help companies access more accurate and timely data to manage their assets, including the transportation vehicle. RFID solutions for asset maintenance, yard management (cross-docking applications), dispatch, pickup and delivery, sales force automation and more secure freight and container solutions are available to help companies improve efficiencies or enhance services to their customers.

## CASE STUDY #1

### National Transportation Freight Company

The following representation outlines how a mid-sized transportation company, with \$150M in revenue, 750 tractors and 2600 trailers, leveraged RFID solutions to address the demands of the business to improve asset utilization and operational efficiencies related to the delivery of goods, while reducing costs associated with the labor to do so.<sup>2</sup> The company typically purchased new tractors/trailers to enable growth and to replace damaged or missing equipment. In addition, the company

faced adding several yard managers to ensure the availability of containers or vehicles for loading at the distribution center; trailer loads were not always optimized and more vehicles were required to do the job. Delivery accuracy was below acceptable standards impacting customer satisfaction. Dramatic improvement across the operation was required.

This company implemented RFID solutions to better manage their tractor, trailer and freight assets. RFID tags were implemented for high-valued goods, handheld readers were deployed in the yard and fixed readers in the distribution center, allowing the company to locate and monitor its assets more closely. Goods in the distribution center were also RFID tagged, at the pallet level, allowing the company to certify truck loads and streamline overall operations. Advanced shipping notices and proof-of-delivery transactions are scheduled to be implemented in collaboration with its trading partners to automate and improve the accuracy of the transaction process.

#### Net results from deploying RFID:

- Reduced number of fleet vehicles by improving locating efficiencies, allowing better utilization of assets and reduced maintenance and repair costs, resulting in an annual savings of \$2.1M
- Streamlined pick up and delivery operations yielding lower labor costs and an annual savings of \$6.3M

- Improved yard management efficiencies, reducing labor required to monitor and locate missing or misplaced equipment, delivering an annual savings of \$400,000
- Saved \$1.1M by reducing costs associated with misplaced or mis-shipped items and improved delivery accuracy to 98%
- Achieved ROI in the span of 12 months, and anticipate additional benefits as more trading partners implement complimentary RFID solutions

## CASE STUDY #2

### McCarran International Airport

McCarran International Airport handles nearly 70,000 passengers and more than 460 flights each day, making it the seventh busiest airport in the country, according to Airports Council International. With two terminals, 93 gates and an ever-increasing passenger population, the airport has reported annual double-digit growth in recent years. This staggering increase, along with U.S. Transportation Safety Authority (TSA) mandates for improved airport safety since September 11, 2001, prompted airport officials to seek more efficient passenger check-in and boarding procedures as well as enhanced protection for passengers and employees.

Airport officials conducted extensive research to discover alternatives to conventional baggage handling and tracking processes. They discovered the numerous advantages of RFID, specifically EPC RFID technology. They then selected Motorola to design and implement the solution for their passenger safety and satisfaction dilemma.

“This is truly a win-win for everyone: the traveler, the airport, the TSA and the airline. This new process enables travelers to be safer, while reducing the incidence of lost baggage and ensuring that screened bags are delivered to the right location at the right time. We couldn’t be happier,” said Randall, Director of Aviation, McCarran International Airport.

RFID tags are printed and attached at the ticket counter. Each tag carries a unique identifier that is read by RFID readers while the bag is transported to conveyor belts to route it to screening machines and then on to the appropriate plane.

#### Net results from deploying RFID:

Today, McCarran International Airport is serving more passengers than ever, more efficiently and quickly. The new system provides McCarran with

nearly 100 percent accurate baggage tracking as well as end-to-end asset visibility. Despite the ever-growing airport traffic, officials are pleased to report a continuous and significant increase in passenger satisfaction. The new RFID baggage handling and tracking system is helping reduce operating costs while providing an effective system for:

- Enhanced passenger security
- Improved baggage and inventory visibility
- Reduced operating costs
- Improved customer service and satisfaction

## RFID Solutions and Benefits

Process improvements and bottom-line benefits that RFID can provide are significant and include:

### Transportation and Logistics

- Enhances customer services by increasing the accuracy and number of on-time deliveries
- Reduces labor and inventory carrying costs and improves efficiencies for the loading, tracking and delivery of cargo
- Reduces loss of cargo through theft, mishandling or expiration with improved tracking and status information
- Reduces fleet maintenance costs and increases fleet availability (asset uptime) by improving parts availability to support scheduled repairs and preventive maintenance
- Provides safe and secure freight transportation with container management solutions and electronic container manifests

### Travel (primary travel mode: aviation)

- Enhances customer service with efficient baggage handling and optimizes the passenger travel process
- Reduces delayed departures by efficiently moving baggage from conveyors to screening machines to planes, and satisfying increased security protocols
- Increases security by associating every piece of luggage to its owner/passenger

- 1- "Hong Kong airport tunes \$50 million auto ID project to improve baggage handling and security" By Brian Robinson Published on Aug. 29, 2005
- 2- Case study scenario is based on general industry knowledge and references as well as reference from "Auto-Id on the Move: The Value of Auto-ID Technology in Freight Transportation" ([www.accenture.com/Global/Research\\_and\\_Insights](http://www.accenture.com/Global/Research_and_Insights))



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