

# Union Pacific Railroad

## North America's Premier Railroad Franchise

### Customer Case Study

Sector: Transportation

Solutions: RFID & Biometric Based Inventory & User Management System

Products: AIMS, DEAR, PASS

## RES Breathes New Life Into UPRR's Outdated System

### Overview

UPRR's extensive track systems include a variety of tunnels, many of which can stretch as many as 8 miles long. These tunnels hold in carbon monoxide fumes and contain a very limited oxygen supply, meaning that, if a train was to unexpectedly stop inside one of the tunnels, employees' access to oxygen would be gravely threatened.

Before working with RES, UPRR had a system set up to combat these risks, but it lacked the definiteness needed in such a crucial situation. These procedures involved the pick-up and drop-off of oxygen tanks and masks by employees traveling through the tunnels. At each station, it was the employee's responsibility to manually enter into a log file a record of the transaction, including their employee information, as well as what was taken, returned, and used.

### Challenges

- This system relied heavily on the "honor system;" there was no one at the station to verify that the information was entered correctly or at all. Thus, there was a large data accuracy concern.
- There were no safe guards in place to assure that the employee taking or using the equipment was authorized and certified to do so.
- There was a potential for malfunctioning tanks. Human error in data entry resulted in unreliable records concerning the frequency of equipment use. Thus, certain equipment could be taken or used that, in reality, needed to be serviced.



### Solutions

RES first began by creating a state of the art, on-site system, incorporating the use of RFID, biometric, and voice command technology. We then took this a step further by developing a program that can communicate between UPRR's network and the local, on-site server. This software can access information from both systems, sort and compare data from the networks, and from this, draw accurate conclusions. It relays these conclusions in the form of equipment access restrictions, voice commands, and daily database upgrades. In addition, data from the on-site server, as well as the main network's information, is automatically uploaded and synced every night, assuring use of the latest, most accurate information.

(Continued on next page)



# Union Pacific Railroad

## North American Premier Railroad Franchise

---

### Solutions (cont.)

The on-site system combines aspects from two different RES's software solutions: Asset Inventory Management System (AIMS) and People Authentication & Security System (PASS). Their integration allows for a high degree of multi-functionality - UPRR is not only guaranteed that their assets are managed efficiently, but that they are managed securely and by the right people.

The process begins by outfitting each oxygen tank and mask with a small, metal RFID tag. Then, during equipment pick-up and drop-off, employee fingerprints are read. By syncing data from the network server, the local server can tell if the employee is up to date on their certification, authorized to use the equipment, and even scheduled to work at the time of equipment removal or return.

Upon pick-up, voice commands prompt the individual on which tank to take, based upon current servicing information. Then, as the person walks out of the station, the RFID tag on the equipment taken is read and linked with the individual. The same procedure applies to equipment return, but this time voice commands tell employees where to place or leave the equipment. Furthermore, the system scans the RFID tags, logging which items were returned and which were not. The only manual input required of the employee is information on whether the tank was used.

The final piece of UPRR's system incorporates RES's Dashboard for Executive Analytics (DEAR). With DEAR, information concerning inventory levels, equipment servicing, equipment use, and employee recertification via web anywhere, on site or off, by authorized users.

### Ongoing Benefits

With the help of RES's new software, UPRR's oxygen risks are lower than ever and safety is at an all-time high. Since the system's implementation, UPRR has seen the following results:

- Accuracy is at 100% due to automatic data entry and network communication.
- Daily upgrades guarantee that information is always up to date.
- Better security control is assured through the use of biometrics.
- RES's DEAR Application allows authorized users and administrators access to network data anytime and anywhere, providing an ease of use never before experienced.



[www.resrfid.com](http://www.resrfid.com)

---

Contact RES today to schedule a consultation

#### United States (Corporate)

7003 Post Road Ph. 732-RES-RFID  
Suite 412 Fx. 614-929-3384  
Dublin, OH 43016 [sales@resrfid.com](mailto:sales@resrfid.com)

#### Turkey

2.Orta Sokak, No. 29/2  
Goztepe 34730  
Istanbul

Ph. 216-350-0868  
[sales@resrfid.com](mailto:sales@resrfid.com)

