



THOMAS BUILT BUSES, INC.

Solution Overview

Industry

Public Bus Manufacturing

Scenario

Thomas Built Buses is a customer-driven manufacturer of buses. Their main goal is to deliver exactly what their customers want as quickly and efficiently as possible. The size of the facilities, the number of options allowed, the volume of production created a manual nightmare!

Company Profile

Thomas Built Buses is one of the nation's largest manufacturers of buses, supplying major contract carriers and school districts across the country. Founded in 1916 as Perley A. Thomas Car Works in High Point, N.C., the company started out as a manufacturer of streetcars and later, trolley buses. Perley transitioned to production of school buses in 1936 and added commercial buses and specialty vehicles shortly thereafter. The company was re-named Thomas Built Buses, Inc., in 1972, and in 1998 was acquired by DaimlerChrysler, and operates as a subsidiary of Freightliner LLC.

Thomas has grown from a regional bus manufacturer into the leading manufacturer of school buses in North America with a 34% share of the school bus market.

Solution

Traxware RFID Tracking System with 40 collection stations using 14 IDENTEC SOLUTIONS i-PORTs to track assets as they travel through assembly into the finished goods yard.

Software Used

Oracle database: Transactions are automatically generated whenever a bus moves into a station, showing the station, date, time, and tag identification.

Hardware Used

IDENTEC SOLUTIONS i-PORT Stationary Readers and active i-Q RFID tags.

Warehouse Size

1,000,000 square feet along with 88 acres of finished goods parking.

Collection Stations

14 i-PORTs with multiple antennas connected via Ethernet to a fileserver running data collection software.

Benefits

- Increased accuracy
- Improved inventory verification
- Simplified reporting
- Greater visibility to process efficiencies

Thomas Built Buses is one of the most influential and respected school bus manufacturers in the transportation industry today. Thomas specializes in producing buses for major contract carriers and school districts. Thomas needed help tracking bus movements within production and storage locations, so they decided to implement a Radio Frequency Identification (RFID) management system, which would allow monitoring of the buses as they move through production lines and designated parking areas. The use of RFID tags eliminates the need for human scanning intervention, and allows for better tracking of movement. With enhanced visibility, Thomas achieved improved scheduling, transfers, and location management in the yards.

The Need for Lean Manufacturing

In early 2001, Thomas began a search for a solution that would allow them to better track the movements of buses through production and in the finished goods area. Thomas highlighted several goals for improvement:

- ❑ Track movements in the production line to record gaps and enhance scheduling
- ❑ Reduce time spent recording bus inventories
- ❑ Reduce time on the verification process
- ❑ Increase visibility of bus locations to help handlers better coordinate movements and minimize wasted transfers.

A key consideration was the ability to effectively integrate a system with their Oracle database. The challenge was finding a flexible, cost-effective solution that could integrate all their information and reduce time spent on non-value-added activities.

After selecting System Concepts, Inc. as their partner, Thomas was introduced to the Traxware RFID Tracking System as the best solution to interface with their current system. Traxware would provide a smooth running operation with the control needed in production and inventory. Furthermore, Traxware offered an integrated solution that is easy to use and personalize, and is backed by award-winning customer support and services.

Working closely with System Concepts, Thomas set about creating a customized program for dealing with their specialized manufacturing and distribution needs. The upfront analysis of business requirements paid off, enabling Thomas to implement a flexible solution that met their initial needs and continues to grow with them.

***“We chose System Concepts over the competition because of the ideas, solutions and services that they presented to us. They took the time to understand our problems, talk to our people, and work through the issues. The mobile concept that they introduced to track where our buses are located was a great idea!*”**

Kent Garno - Material Management



THOMAS BUILT BUSES, INC.

“The Traxware RFID Tracking System has provided Thomas Built Buses the visibility tool needed to gain efficiencies in both the manufacturing and material management areas. Many hours have been saved due to the elimination of the manual efforts that once were required!”

Kent Garno
Material Manager
Thomas Built Buses

For more information about Traxware RFID Tracking Systems, visit www.sysconcepts.com or call 336-454-7122 or 877-822-0200

For more information about Thomas Built Buses, visit www.thomasbus.com or call 336.889.4871

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The Solution:

The Traxware RFID Tracking System: 40 collection stations using 14 IDENTEC SOLUTIONS i-PORTs with multiple antennas to track assets as they travel through assembly into the finished goods yard. When a bus is scheduled for assembly, paperwork is generated to build a particular bus with associated specifications. An RFID tag with a unique identity is attached and is used to track the bus throughout production and into finished goods.

The Process:

- ❑ **RFID Selected:** An available RFID tag is selected from inventory to track a particular bus from assembly to finished goods.
- ❑ **Work Order associated with Tag:** Bar-coded work orders are scanned along with the bar code attached to the RFID tag to record the “birth” of the combination. The RFID tag is dropped in the production packet / traveler that will attach to the bus. When the body frame of the bus is complete, the RFID tag is attached by a magnet to the back of the bus for future detection.
- ❑ **Information Collected:** A series of collection zones automatically collect the existence of a bus in that zone. These zones were selected based on tracking, inventory back flushing or problem areas. When a bus moves into a zone, the system records the time the bus entered and exited the zone thereby determining station time at a particular area.
- ❑ **Tracking throughout Assembly:** The bus can travel to many different areas or plants based on customer-selected options. The RFID system will track the exit and entry into another plant area thereby continuing the tracking of the assembly process.
- ❑ **Records Final Location:** Upon final completion of the assembly process, the bus is moved to an 88-acre field for customer pickup. The RFID system detects the location of the bus and automatically updates the Oracle database.
- ❑ **RFID Generates Blinking Lights:** WhereTrax™ Presentation Manager: When the customer arrives for pick up, WhereTrax queries the database for the most recent position of the bus and displays its location on a web-based site map. Similarly, WhereTrax can query and display locations for all buses for a district or a dealer, buses ready for special build-out, historical movement of one bus through the site, etc.
- ❑ **RFID Tag Recycled:** The bus is driven to the exit area where the RFID tag is removed and returned to inventory for future use.
- ❑ **RFID Physical Inventory:** As personnel make rounds through the 88-acre holding area, a tracking computer installed in the security vehicle samples bus locations, filters and analyzes the voluminous data, and posts summary records to the database via web service.

Benefits of Automated Tracking:

- ❑ Reduced hours spent monitoring production activities
- ❑ Reduced errors during bus assembly
- ❑ Reduced time finding buses in the finished goods yard
- ❑ Reduced labor delivering buses to customer locations
- ❑ Improved inventory management due to automatic back-flushing