

THE COMPUTERWORLD HONORS PROGRAM

CASE STUDY



LOCATION:
*Jacksonville, Florida,
United States*

YEAR:
2006

STATUS:
Laureate

CATEGORY:
Manufacturing

NOMINATING COMPANY:
TIBCO

ORGANIZATION:

TNT Logistics North America

PROJECT NAME:

Delivering Real-Time Visibility Through RFID

Summary

TNT Logistics North America is a business unit of TNT Logistics, a leading global logistics company. It designs, implements and operates complex supply chain solutions on a national, regional or global scale for medium to large enterprises. TNT exploits technology to achieve optimization, integration and visibility throughout the supply chain.

TNT Logistics launched an innovative, radio frequency identification (RFID) initiative in 2005 designed to help its automotive customers automate workflow, provide real-time visibility, reduce inventory and prevent business interruption in their complex supply chains. The initiative was piloted with the Ford Motor Company's F1 truck assembly plant in Dearborn, Mich.

Our goal with the RFID program for Ford was to contribute to the success of all TNT customers by embracing new technology and developing innovative, value-added services. There are no industry-based RFID automotive mandates today as there are in retail with Wal-Mart, for example. While the auto industry has been using RFID successfully in production processes for some time, the use of it elsewhere in the supply chain has been slow in coming – until now.

Introductory Overview

As part of the Ford/TNT initiative, RFID tags and a network of wireless locating sensors, supplied by WhereNet Corp., were set up to provide real-time location and status information for thousands of mobile racks shared between the assembly plant and TNT's facility. Devices located at TNT Material Sequencing Center (TMC) dock doors trigger RFID active tags to identify dock door, trailer # and load ID when a rack full of parts is loaded onto a truck bound for the Ford assembly plant. Through this automatic data collection process, utilizing RFID technology from TIBCO Software, the system confirms the load has been built, and validates that it is in ready-to-ship status. The system will even trigger an advanced shipping notice so that the factory knows what material is en route.

Additional steps in the initiative include automated gate arrival, load and unload rack validation, rack traceability and real-time location system (RTL) alerts to improve communications between the MSC and the assembly plant. These business events are fulfilled using TIBCO



THE COMPUTERWORLD HONORS PROGRAM

CASE STUDY

ORGANIZATION:
TNT Logistics North America

PROJECT NAME:
*Delivering Real-Time
Visibility Through RFID*

LOCATION:
*Jacksonville, Florida,
United States*

YEAR:
2006

STATUS:
Laureate

CATEGORY:
Manufacturing

NOMINATING COMPANY:
TIBCO

complex business event processing and real-time visibility software to help prevent interruptions and manual interventions in the automotive supply chain process.

Benefits

When fully executed, the RFID initiative will provide real-time visibility and a synchronized assembly process to deliver an uninterrupted flow of parts from the material sequencing center to line side at the assembly plant. Additionally, the solution will help to automate workflow, reduce inventory and prevent business interruption in the assembly process. In Ford's case, the company will have an active integrated RFID solution that can be deployed around the world at more than 50 manufacturing sites to leverage the capital investment it has made in the WhereNet infrastructure.

The Importance of Technology

How the RFID Initiative Works – The RFID initiative at the MSC operated by TNT Logistics for Ford Motor Company supports Ford's Dearborn truck assembly plant in Dearborn. The MSC delivers small lot, sequencing and metered parts to line-side at the plant. Prior to the initiative's outset, the operation was experiencing a series of disconnected electronic and manual processes. And the opportunity for business interruption – including late deliveries, part shortages, misplaced or lost parts – was always present.

The RFID rich, internet-based graphical user interface (powered by TIBCO General Interface) was configured for the MSC outbound load validation process, which displays rack load status on LXE mobile computers mounted on forklifts. The GUI will be leveraged via WhereNet and TIBCO middleware that connects the processes.

Originality

The initiative's originality hinges on deep partnerships with WhereNet and TIBCO. TNT Logistics uses WhereNet's active-RFID based solutions on a daily basis to optimize outbound logistics in support of synchronous material flow. As they expand and continue to add more customer nodes on their network, the value of the network increases as does the collaboration between all supply chain partners who collectively enable more lean and flexible processes.

RFID has the potential to transform manufacturing and retail industries. Early adopters like TNT have already witnessed the tangible benefits the technology has to offer for simplifying operational efficiency. Leveraging TIBCO's next-generation active RFID technology, businesses like TNT today are capable of fulfilling 'perfect orders' with the utmost accuracy, and deliver on customers' expectations and need for real-time information.

Success

The seamless integration of technology at Ford, TNT, WhereNet and TIBCO in itself is proof that the RFID project was a success. Real-time electronic connectivity across multiple platforms (3PL, Supplier & Assembly Plant) via EDI has been in place for many years. But real-time visibility of physical part movement between multiple sites synchronized with electronic data flow for event management to prevent business interruption has never been done before.



THE COMPUTERWORLD HONORS PROGRAM

CASE STUDY

ORGANIZATION:
TNT Logistics North America

PROJECT NAME:
*Delivering Real-Time
Visibility Through RFID*

LOCATION:
*Jacksonville, Florida,
United States*

YEAR:
2006

STATUS:
Laureate

CATEGORY:
Manufacturing

NOMINATING COMPANY:
TIBCO

Success will be further measured through implementation bandwidth. In Ford's case, they will have an active integrated RFID solution that can be deployed around the world at more than 50 manufacturing sites to leverage the capital investment made in the WhereNet infrastructure.

Difficulty

RFID, in general, has been in existence for many years. Wal-Mart, Target, Kmart and the Department of Defense (DOD) have imposed mandates in the retail and military sectors that have driven compliance and learning. EPC Global is the standards body of influence.

In 3rd Party Logistics and Automotive, RFID projects have been lacking and are usually in the R&D mode. TNT NA has been working on RFID in a production environment with the Ford Motor Company for the past 2 years. The most difficult areas have been:

- Learning curve
- Industry Knowledge
- Standardization
- Functionality
- Software
- Hardware
- Organizational synchronization
- Vision
- Scope
- Funding
- Savings (Cost reduction)
- Security (Firewall issues)
- Fear (of the unknown)
- Documentation (S-Oxly)