



# The next-generation warehouse: Megatrux improves service and reduces costs with RFID



The Motorola RFID solution delivered a new level of efficiency in overall warehouse operations. As a result of process automation, Megatrux achieved 100 percent accuracy in shipments. Mis-ships were completely eliminated, labor costs were reduced, warehouse throughput was increased and the real-time information provided by RFID was leveraged into new customer services for a sharper competitive edge. In addition, the company enjoyed a rapid return on investment — the payback was less than 18 months.

## Company overview: Megatrux

Megatrux is a one-stop global supply chain for over 100 of the world's major retailers. With over three million square feet of warehousing space in the US, the company's award-winning multi-modal domestic and international third party logistics (3PL) freight management services include land, sea and air, providing the end-to-end supply chain shipping services retailers need to move any amount of product from overseas manufacturers to the warehouse and on to the store shelf. Headquartered in Rancho Cucamonga, California, the company consists of nine subsidiary freight management services with eight warehouses throughout the United States, and ships to retail giants including Wal-Mart, JC Penny and Bed Bath & Beyond.

## The challenge: protect service levels...and profitability

Megatrux is always on the lookout for ways to leverage technology to maintain an edge in the highly competitive 3PL industry, where customer service and lean pricing are king. With rising fuel costs threatening already slender margins, the company was seeking a way to further streamline operations to reduce labor costs — while improving customer service levels. In addition, since many Megatrux customers are also Wal-Mart suppliers, the company was already aware of the value that RFID-enabled shipping could provide — and RFID solutions were already under investigation.

## The solution: an RFID-enabled warehouse

Megatrux determined that deploying RFID in the warehouse would address multiple business needs. The efficiency and accuracy of everyday warehouse operations would be improved by automating traditionally manual processes. The valuable real-time data from RFID could allow Megatrux and its customers to monitor the 'right now' status of shipments at any time of the day. And the company could also offer a new service — RFID compliance — to its customers.

A Motorola RFID solution was put to the test at Megatrux's busiest warehouse — a 175,000 square foot facility in California that processes over one million cases for Wal-Mart alone, every year. KC Pelle, Executive Vice President of The Megatrux Companies commented: "When it came to selecting a vendor for our RFID implementation, we wanted the best — and Motorola was the clear leader in data capture solutions. Together, Motorola and Ship2Save offered the technological and industry expertise we needed to achieve success from day one."

## Customer profile

### **MEGATRUX, INC.** 3PL Global Freight Management

#### Location

Rancho Cucamonga, CA

#### Industry

Transportation/3PL

#### Motorola Products

- XR440 Fixed RFID Reader
- AN400 High-performance RFID Antennas
- MC9090-G RFID Handheld Reader

#### Data Management Application


Operation Management System (S2S-OMS®) middleware application from Ship2Save

#### Partner

Ship2Save

#### Benefits

- 100% accuracy in shipments, eliminating mis-ships and the associated negative impact on customer service and costs
- Reduction in labor costs through process automation
- Improved warehouse throughput
- New customer service differentiators:
  - Real-time customizable tracking website for customers
  - RFID compliance services
- Rapid return on investment expected in just 14 to 16 months



The solution deployed consisted of Motorola's XR440 Fixed RFID readers and AN400 High-Performance RFID Antennas at the five import and export warehouse dock doors; two RFID Gen2 EPC thermal label printers for on-the-spot printing of RFID tags; a Motorola MC9090-G RFID Handheld Reader to enable anywhere anytime reading of RFID tags; and the glue that enabled the easy integration of the solution into the company's existing business systems — Ship2Save's Operation Management System (S2S-OMS®) middleware application.

The result was the streamlining of operations throughout the warehouse:

#### **RFID at the inbound dock door**

Now, as shipments arrive at the dock doors, RFID labels are printed on the spot and affixed to each and every incoming shipment at the case and pallet level. After tagging, the cases and pallets move past the dock doors where the XR440 readers and AN400 antennas capture the raw information on the RFID tag and automatically transmit the data via a wired connection to the S2S-OMS middleware. Ship2Save's middleware application then acts as a crucial middleman, interpreting, filtering and properly formatting the data for transmission to the Megatrux warehouse management system (WMS).

#### **RFID at the outbound dock door**

When shipments leave the warehouse, the readers and antennas capture the RFID information on the pallet tag, which is transmitted instantly to the WMS via Ship2Save's middleware. The receipt of that information triggers the automatic issuance of invoices and advanced shipping notices (ASNs). And real-time system intelligence enables an alarm to be triggered in the event a driver attempts to load the wrong pallet onto the wrong truck, sending a visual queue to the monitors located over each dock door.

#### **RFID on the move in the warehouse**

A Motorola MC9090-G RFID Handheld Reader expands the ability to utilize the information on the RFID tagged goods beyond the fixed readers at the dock door. By adding mobility, Megatrux was now able to extend the benefits of RFID to additional inventory processes. For example, a quick scan of the shelves or loads in the staging area now enables the instant location of a specific shipment or box. And mobility also allows the on-the-spot association of box and pallet tags to ensure that each pallet contains the right boxes.

#### **RFID on the move out on the road**

Integration of the RFID solution with the company's global tracking system (GPS) expands visibility of real-time shipment location to the trucks on the

road. Now, Megatrux notifies customers when the truck is within one hundred miles of its destination, enabling the facility to prepare for the shipment, in the yard and at the loading dock.

#### **The benefits: better service, fewer errors, reduced labor costs...and a rapid return on investment (ROI)**

The RFID solution proved it's worth by delivering a multitude of benefits:

- **Faster throughput for faster service:** Many manual steps were eliminated from the warehouse processes — for example, incoming and outgoing shipments no longer require the physical attention of a worker. Now, the RFID readers automatically capture and transmit all needed data in real time. As a result, workers process more orders per day, improving shipping times and customer satisfaction — and reducing labor costs.
- **100% accuracy in shipments eliminates mis-ships:** With RFID, Megatrux can be sure that the right customer receives the right shipment at the right time, eliminating the high cost of dissatisfied customers and mis-ships.
- **Expansion of customer services for a sharper competitive edge:** The RFID solution allows Megatrux to offer its customers the ability to track shipments in real time — from door to door. And the ability to offer new value-add RFID compliance services for Wal-Mart and other suppliers provides a competitive differentiator and an incremental source of revenue — and as a bonus, help offset the cost of the RFID solution.
- **A rapid payback:** the RFID solution provides such a wealth of business benefits that the company expects a full return on investment in a short 14 to 16 months.

Says KC Pelle, Executive Vice President of The Megatrux Companies: "Our RFID solution is not only a major differentiator, it keeps us in the top tier of providers in the 3PL industry. We have the real-time visibility we need to provide a personalized website for our customers that allows them to access current and complete tracking, shipping and logistics performance data for all aspects of the shipping process. The flexible system enables the easy manipulation of the data to meet any specific customer needs. The automation of business processes enables our warehouse workers to handle unbelievable volumes, translating into a major savings in labor costs. Add the inherent error-proofing that RFID affords, and we're now able to

virtually guarantee that when our customers ship through Megatrux, they can count on receiving the right product at the right time — and at the right place.”

### The future: a rapid expansion of RFID

Given the success of this RFID implementation, Megatrux already has future plans for RFID — deployment in other U.S.-based warehouses in the next 18 months. In addition, the company plans to expand RFID to international operations, and is looking at implementing Motorola’s RD5000 Mobile RFID Reader on forklifts and other material handling equipment to expand the benefits of RFID across all warehouse processes.

Says Pelle, “We put RFID to the test in our busiest warehouse — and it passed with flying colors. The Motorola/Ship2Save solution has become the foundation for a complete mobile RFID warehouse solution that will reach beyond the dock doors to touch every area of warehouse inventory management — from put-away and picking to shipping and inventory counts.”

For more information on how Motorola’s RFID solutions can help your company achieve competitive advantage, please visit us on the web at [www.symbol.com/rfid](http://www.symbol.com/rfid) or access our global contact directory at [www.symbol.com/contact](http://www.symbol.com/contact)

### About our partner: Ship2Save



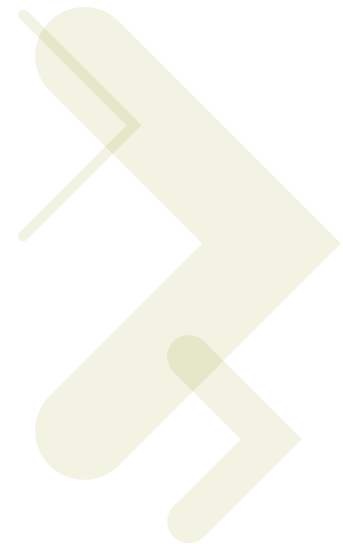
In operation since 2001, Montreal (Quebec) based Ship2Save specializes in designing and implementing innovative RFID solutions for the transportation, warehousing, sea freight, retail, consumer product goods (CPG), aerospace, petrochemical and automotive industries in North America. The company develops and deploys customized hardware and software systems that integrate into the customer’s existing legacy systems while working with the specific industry standards of each customer’s particular market niche. Ship2Save’s offering includes a core proprietary middleware

(Ship2Save Operation Management System), an asset tracking application (Unit in Transit System), an available array of leading RFID hardware, certified RFID courses and RFID System integration services that incorporate customized software, hardware and formal training into effective business development models.

Ship2Save’s unique product lines, flexible and proficient software, business development models, and distinctive deployment services combine to offer our customers cost effective and high quality solutions to meet operational goals and logistics requirements. Our onsite RFID research and development facilities provide warehousing and logistics services for the testing and deployment needs of every project. In-house experts validate all project aspects without disruption to the customer’s normal operations. With Ship2Save, RFID deployments are accelerated while development costs are minimized, resulting in an overall clear improvement to our customer’s bottom line.



With Motorola’s portal-encased XR440 Fixed RFID Readers installed at the dock door, incoming shipments are automatically reconciled upon receipt and properly staged for put-away. The ability to read the tags in real-time on outgoing shipments enables automatic creation of the invoice and Advanced Shipping Notice as well as the prevention of mis-ships — and a visual queue is sent to the monitor above the reader in the event the system detects that the wrong pallet is being loaded onto the wrong truck.





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CASE STUDY: MegatruX