## Case Study

**Reducing inventory costs and improving visibility by tracking container movement using RFID**

### Client
Global transportation and warehousing major

### Industry
Transportation and warehousing

### Business need addressed
- Track container movement across the enterprise
- Optimize routing processes to save time and increase efficiency
- Reduce inventory costs

### Genpact solution
- An end-to-end solution for tracking containers with integrated data collection
- Operational analytics to optimize routing and logistics
- Process management solution to refine the tracking solution and provide continuous improvement

### Business impact
- Enhanced inventory visibility, with cost reduced by 65%
- Improved returnable container turnaround time by 20%
- Reduced losses and shrinkage by up to 15%
A global transportation and warehousing major needed to reduce inventory costs. The ability to track container movement and optimize routing processes was necessary to control costs. Genpact enabled the client to set up an RFID (Radio-Frequency Identification) tracking system, which reduced inventory costs by 60%.

**Business challenge**

*Limited visibility into container inventory, leading to cost escalations and inefficient inventory levels*

A warehousing client was losing money because it had poor visibility into the whereabouts of its reusable, returnable warehouse containers. It lacked an end-to-end view of the containers’ movement as they moved between the warehouse, the supplier, and the plant. This led to inventory costs being higher than planned because of the poor visibility, which led to unnecessary cycle counts. In addition, the manufacturer had too many containers, which increased inventory carrying costs. The returnable container inventory was also above planned levels, because it was too difficult to determine how many the manufacturer actually required. In addition to improving the visibility, the client needed process improvement to maintain and refine the new tracking solution/processes going forward.

**Genpact solution**

*Developed an RFID-based tracking system to facilitate planning, logistics, and analytics for container movements, enabled by Internet of Things (IoT)*

Today, the IoT allows machines to effortlessly talk to other machines and computers. It allows manufacturers to optimize their industrial assets, a challenge historically reflected in extra costs hurting their bottom lines and was central to solving this business challenge. The solution required the creation of an integrated environment to collect location data, as well as the ability to use analytics for routing and logistics optimization.

Harnessing the potential of the IoT, the client set up a container tracking system based on RFID technology. This involved setting up RFID trackers in each warehouse container and specialized readers at inbound and outbound dock doors to track them, enabled by RFID middleware and asset management software.

The data supplied by the passive and active RFID technology flows into a web-based decision system that:

- Provides visibility toward wait time and attrition of container inventory
- Tracks changes in container logistics
- Reschedules and inputs all planning related to container movement, and
- Reports the response rate

The solution also manages the containers’ traceability. It provides an aggregated view of container location and movement, manages reconciliations and exceptions along with identifying choke points to enable pre-emptive action.

The asset management software also handles communications with the warehouse, supplier, and plant, and initiates and expedites workflows proactively to avoid bottlenecks. The ability to track and trace the reusable containers provided the data the client needed to improve its inventory management and cut costs in every corner of the process. The ability to integrate and then analyze the RFID data showed the client how to optimize its business process and stop the financial leakage.
The analytics and technology enablements were supported by domain experts in two areas:

- The *Logistics Optimization Team* optimizes the network and re-optimizes basis changes. Their work loops back to the asset management system.
- The *Decision Support Team* provides execution support, visibility, and alerts and manages all feedback. They work together to provide continuous improvement going forward.

**Business impact**

Greater visibility improved a series of metrics and benchmarks that enhanced the bottom line.

- RFID tracking improved inventory visibility and cycle counts, which reduced costs by 65%.
- The client saved 30% in inventory carrying costs and cut returnable container inventory by 10%, enabling a more optimized inventory management system.
- Better visibility reduced one-time packaging by 80% and improved returnable container turnaround time by 20%.
- The improved business process reduced reconciliatory processes, providing a 75% cost reduction. It also trimmed losses and shrinkage between 5 and 15%.
- Overall, better control over transportation reduced costs by 5%.

The solution is further enhanced by a platform for continuous improvement so that the client has the tools to continue to tweak the process to save even more money and further increase efficiency as time goes on.
About Genpact

Genpact (NYSE: G) stands for “generating business impact.” We architect the Lean Digital™ enterprise through a unique approach based on our patented Smart Enterprise Processes (SEPM™) framework that reimagines our clients’ middle and back offices to generate growth, cost efficiency, and business agility. Our hundreds of long-term clients include more than one-fourth of the Fortune Global 500. We have grown to over 70,000 people in 25 countries, with key management and a corporate office in New York City. We believe we are able to generate impact quickly and power Intelligent Operations™ for our clients because of our business domain expertise and experience running complex operations, driving our unbiased focus on what works and making technology-enabled transformation sustainable. Behind our passion for technology, process, and operational excellence is the heritage of a former General Electric division that has served GE businesses since 1998.

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