



Real-Time Visibility and Locating for Manufacturing Assets

A U.S. global aerospace and defense company with extensive government contracts and dozens of large-scale manufacturing facilities needed a more automated, digital, and accurate way to track and locate its expensive parts, tools, equipment and assets. DecisionPoint Technologies and Zebra worked together to deliver the right solution with RFID technology for real-time tracking and locating with unprecedented visibility and efficiency.

The Problem

As a global aerospace and defense contractor, the company needs to track and locate many thousands of parts, tools, pieces of equipment, and assets across its manufacturing facilities, which include multiple buildings and hangars on a massive scale.

This makes it difficult to track and locate the right items quickly, accurately, and efficiently, especially when some tools, equipment, and assets are shared and are often moved between buildings and work areas to support different builds and projects.

Despite the advanced technology and products that the company manufactures, tracking was still being done with manual paper-based processes and spreadsheets. This further complicated its tracking efforts, as it was often difficult to track and locate items quickly and efficiently, and delays, errors, and data gaps were common.

The company wanted to implement a huge improvement and start using radio-frequency identification (RFID) to start tagging, tracking, and locating its assets wirelessly and digitally, with more automated efficiency and more pinpoint accuracy.

But adopting a new technology for the business and standardizing new processes across its facilities would be a challenge, and it would require both RFID hardware and software. So, it reached out to DecisionPoint Technologies, a leading RFID software developer, system designer, a provider of RFID solutions, and a certified partner of Zebra, a global leader in RFID and other sensor-based tracking technologies.

DecisionPoint and Zebra quickly got to work with the company, reviewing its tracking and locating challenges, providing detailed insights and recommendations on the best path forward, and proposing the solutions, systems, and processes to help it achieve its goals.

Quick Summary

COMPANY

U.S. global aerospace and defense contractor

PROBLEM

Manual tracking and locating of parts, tools, equipment and assets

SOLUTION

DecisionPoint ViziTrace software and Zebra RFID technology

RESULTS

- Real-time visibility into item statuses and locations
- No manual tracking or locating processes
- Easy map-based item searches and views
- Clear insights into last-known and current locations
- Pinpoint locating to within 18-20 feet
- Fast, efficient and accurate inventory
- Automated wireless tracking and locating
- Digital efficiency and accuracy
- Virtually no possibility of human error
- Automated business system updates



The Solution

The three partners developed and executed a plan to introduce RFID technology at several of the company's facilities, creating a governing body that would establish and thoroughly document a new set of RFID tracking standards for the entire company. The project would require hardware and software deployment, integration, and connection to the company's network and to its business systems.

RFID was rolled out at these first facilities, and the same standards and processes would be implemented at more facilities until the business completed a company-wide transformation. However, one major challenge is the fact that different facilities use different business systems, and RFID would eventually need to be rolled out across dozens of those facilities over time.

Fortunately, DecisionPoint and Zebra have managed many similar projects in the past, with the same fundamental challenges, and their solutions provide proven integration and interoperability with virtually all leading business systems and even custom software solutions.

So, the team developed a plan to start with an initial rollout at the first few facilities and then scale up and expand from there. Since the company was also planning to migrate all of its facilities to SAP S4/HANA as its future business system, that would further simplify the expansion process.

How It Works

DecisionPoint and Zebra helped the company create a system that uses Zebra industrial RFID printers to print and encode RFID tags and apply them to any assets the business needs to track. The tags are mounted to the parts, tools, equipment, or assets using another piece of metal, which is applied to each object, which is also typically made of metal. Tools are tracked with small, hard tags that withstand its autoclave processes. Printed tags are used on non-metallic assets.

As items arrive or are moved between buildings and pass-through entry points, Zebra fixed-position RFID readers automatically and wirelessly detect the tags on the items being transported. Each tag contains a unique ID, which DecisionPoint's ViziTrace software uses to match each item to corresponding records in the company's business system, updating its status and location in real time.

As tagged items pass through or within range, Zebra's fixed-position readers use wireless radio signals to communicate with tags, detect their presence, and transmit their identifying information, location, and updates through ViziTrace and to the company's systems.

Tagged items are located to within an accuracy of six feet with Zebra's fixed RFID readers, including RFID-enabled tables for kitting of tools, fixed readers placed outside of freezers, and Zebra's ATRS fixed-position readers placed in work-in-process areas. If items are moved to areas beyond the range of those readers, where fixed readers aren't in place, the company can still see the last-known location of the items, so it knows where they are in specific areas within a building. To retrieve items in those situations, the company's personnel uses Zebra's handheld MC3300 RFID readers and mobile computers. The mobile device works like a Geiger counter, detecting and locating tagged items within a range of 18 to 20 feet.

This allows the company to quickly and easily track and locate items in real time, without having to manually search for them, maintain paper records or spreadsheets, or spend hours trying to track them down. In the facilities where this system is now live, the company now has clear visibility into its inventory and all of its assets, knowing their last-known location and being able to pinpoint them even further, if needed, with handheld RFID readers.

Additionally, the company can use RFID to automate traceability, locating, and even the tracking of work-in-process and freezer time, all with digital accuracy and efficiency. It's also able to conduct inventory cycle counts with the same degree of efficiency and accuracy, so it plans on expanding RFID into more areas of its operations and across all of its facilities over time.



The Results

Since implementing RFID at its first four facilities, the company has seen a dramatic improvement in cost and labor savings, visibility into its assets and inventory, and has been able to stage production, move the right items into the right places, and coordinate operations with unprecedented speed and efficiency.

Instead of spending hours per day and wasting valuable labor on time-consuming searches, its employees and contractors are able to find what they need, move it to the right location, and update its status, location and availability with real-time data and accuracy.

Since DecisionPoint's ViziTrace software passes all the core tracking and location data to the company's ERP systems, all of this information is readily available from within the applications it normally uses. Personnel can simply look up any item in its ERP system, and all of the information is there, with the latest updates provided from Zebra's RFID tags and readers as well as the ViziTrace software.

All the data is seamlessly transmitted over the company's network in real time, and whenever new items, tags, meta data, locations, and maps need to be created or updated, personnel can simply use the ViziTrace software to manage that part of the process.



Future Expansion

Given the huge success of this preliminary rollout, DecisionPoint and Zebra are now working with the company to create a repeatable RFID kit that will be used to help other facilities quickly implement the same technology. DecisionPoint's ViziTrace software and Zebra's RFID solutions are now enterprise-approved, with all security requirements met and all devices and solutions standardized and approved for all facilities.

There are also implementation guides on which technology and devices are right for which applications, broken down into well-defined, documented, and repeatable use cases across facilities and operations.

The company has also established its official RFID tracking standards and policies, which are being used to guide further expansion and rollout. The business is also actively conducting its standardized, long-term implementation evaluation, with an extensive analysis and measurement of its ongoing results and return on investment (ROI).

As future rollouts move ahead, DecisionPoint Technologies, Zebra, and the business are all continuing to work together closely, with additional facilities expected to be added in the months ahead.

Stop Wasting Time on Manual Searches and Tracking.

Automate your locating and tracking and achieve real-time visibility with RFID



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