



# How a National Autoparts Distributor Used RFID to Streamline Quality Systems

**Client:**

National Auto  
Parts Distributor

**Description:**

A national automotive parts distributor, with more than 6,000 stores and 500,000 parts, turned to Vizinex for a custom RFID solution that could help identify and track defective items.

## The nationwide chain needed a faster, more accurate way to track parts and ID for manufacturers.

The client, a national automotive parts distributor, provides automotive replacement products, accessories and service items. The company manages more than 6,000 stores and stocks more than 500,000 parts. As such, a big part of the day-to-day involves providing feedback to its manufacturers – specifically about parts that return from the field with quality issues.

### Challenge

The client's system for managing this feedback process was well designed. Each part was marked so it could be traced to a particular manufacturing batch. If parts from one batch got returned in unusual numbers, the manufacturing process of that batch could be examined to find the cause. And the manufacturer could take corrective action to fix it. This system enabled the continuous improvement of the company's products.

Unfortunately, processing the parts returned from the field was slow and labor intensive. The identifying marks on the parts, usually etched into metal, were often difficult to read. They had seen much time on the road in corrosive, dirty environments.

As a result, each returned item had to be handled and identified individually by an employee. The process was slow and expensive, and mistakes in reading the deteriorated markings were common.

The client wanted to find a faster, more accurate way to collect data on returned parts. They quickly identified RFID as the answer.

## Solution

The client figured that if an RFID tag could be incorporated into each part, a handheld reader could be used to accurately identify dozens of parts in just a few seconds. This would eliminate significant amounts of labor and the errors from hard-to-read ID marks. They needed to find a small, rugged and inexpensive RFID tag. One that could be permanently incorporated into the assembly, without impairing the function of the part, and could tolerate the rugged conditions to which automotive parts are exposed.

After a short search, they found Vizinex RFID.

After consulting with Vizinex's engineers, the company decided the Sentry 06D was exactly the tag it needed. It's tiny size, only 6mm in diameter, meaning it could be embedded into the product without hurting functionality. It was also intrinsically tough and designed to survive extreme temperature, water and chemical exposure.

An adhesive that could hold the tag in place for the life of the part was identified, and then RFID equipped parts were put through three rounds of testing, each round simulating 60,000 miles of driving. The tags survived this rigorous testing and read per the specification at the end of the tests. The tag was then incorporated into the design of the finished product.

## Results

By building an inexpensive, rugged tag into its product, the distributor streamlined and improved the data collection process that facilitates quality improvements. If the system works as well as anticipated, RFID will be incorporated into the design of more and more parts as time goes by, and the benefits of this new system will be amplified.

As a bonus, the solution makes the products more difficult to counterfeit. Each assembly is now marked with an electronic tag that has a unique, unchangeable number. This number is recorded in the production database and is virtually impossible to fake. So, it's easy to identify parts from other manufacturers that were incorrectly returned for warranty repair.

## About Vizinex RFID

Vizinex RFID, headquartered in Bethlehem, PA, designs and manufactures RFID tags for diverse asset tracking applications from rugged environments in the oil industry, to medical devices requiring repeated sterilization, to long-range vehicle tracking. With prototyping and manufacturing located in the U.S., our time from concept to delivery is unmatched. Vizinex RFID maintains a tradition of innovation, superior functionality and outstanding customer support, allowing us to deliver exactly the tag you need.



**For more information about Vizinex RFID,  
contact us at [sales@vizinexRFID.com](mailto:sales@vizinexRFID.com) or 215.529.9440.**