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## Integrated Barcoding Systems Case History

**Company:** Trelleborg Automotive Americas

**Title:** “Bar Code System Improves Operations for Automotive Supplier” by Brian Albright

Bar code technology has helped revolutionize the automotive industry by providing fast accurate inventory and shipping information to pass among trading partners throughout the supply chain. But just because a manufacturer has deployed bar code scanners in its facilities doesn't mean the technology is being used effectively.

Trelleborg Automotive Americas has been scanning bar codes in its factories for several years, but its disparate shipping and receiving systems were outmoded and operated independently of each other. And production staff still relied on paper tickets to track work in process. A new end-to-end scanning solution has helped the company improve efficiency and accuracy, while providing real-time production data and lot traceability.

Trelleborg Automotive Americas is part of Trelleborg AB, a global supplier to the automotive, aerospace, construction and other industries. The Americas division is primarily a rubber injection operation that makes anti-vibration parts (such as engine mounts and hydro bushings) for automotive OEMs like Ford and GM, as well as suppliers such as TRW and Delphi.

The company had already deployed stand-alone bar code scanning systems in its receiving and shipping departments, but those solutions were not integrated with each other and were becoming outdated.

"We wanted to take the bar code system to the next level, have some lot traceability, get rid of our manual paperwork," says John Jacobs, IT developer at Trelleborg, "We wanted to go from receiving back to shipping with a complete electronic system."

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"Before, there was a paper system where the operator would record all of the traceability information, the parts they made, what kind of scrap was generated, and what machine they were on. That information went into the ERP system," Jacobs says.

Operators on the factory floor had to manage these tickets and record production information by hand, in addition to running their machines.

IT manager Kevin Warner heard about Adrian, Mich.-based Integrated Barcoding Systems while at a project management training class, and eventually visited an existing customer site to see the company's *QuikTrac* data collection software in action.

Trelleborg deployed *QuikTrac*, in large part because the company was able to integrate the solution with its existing System 21 ERP system from JBA International (now part of Infor).

"That was a key point, because when we started we were told by our AS400 programmers that there was no way these systems were going to work together," Jacobs says. "They told us the ERP system was so customized it would be difficult for the bar code guns to interact with it. IBS did a great job on the integration, and we had very few problems."

The company also wanted to be able to develop and expand the bar code system using internal resources to keep costs low.

### **Complete Tracking throughout the Production Process**

The *QuikTrac* system allows Trelleborg complete visibility, from the time raw material arrives at the plant until finished goods are shipped out to its customers.

As raw material arrives at the dock door, employees in the receiving area scan the bar coded labels on the boxes using Intermec CK31 mobile computers with integrated scanners. Once received, materials are stored in one of several warehouses located at each plant.

"We use the bar code serial number on the box for lot traceability," Jacobs says. "Once the material is scanned, the system tells us which one of our warehouses it goes into."

Before being stored, though, the material goes through a quality control check process. The quality department receives a report as soon as material arrives, which has condensed the time it takes for materials to be released for the QC check. "The box can't go any further without that quality control check," Jacobs says.

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Once an order for materials comes up from the production floor, fork truck drivers retrieve the material from the warehouse. According to Jacobs, the retrieval process is largely a visual system, as the bar code scanning solution isn't currently used to manage inventory in the warehouses.

Team leaders on the plant floor scan a bar coded job worksheet, which retrieves the bill of material from the AS400. "The operator at that point knows all the material that has to be at the press, and they scan the boxes of material that come from the warehouse," Jacobs says. "The system won't let them proceed until they have scanned all the material they need."

Trelleborg uses label printers from Zebra Technologies and HP laser printers to produce its shipping labels and job sheets.

Products are put into their final shipping boxes on the plant floor as they are manufactured. "As a job is finished, we scan the boxes to collect data on the finished goods and the scrap," Jacobs says. "*QuikTrac* updates our ERP system immediately."

The finished goods then go through a final quality control audit, a process that now goes much more quickly thanks to the scanning system.

"Under the old system, the auditor would have to scan each box as it was palletized," Jacobs says. "Now, because we scan everything on the plant floor, they don't have to do that. The system validates that there are 72 boxes for the pallet, and they do the quality control check."

Once the boxes move into the shipping area, staff scans the boxes against the shipment information to validate the right boxes are going onto the right truck, and Trelleborg issues an electronic advance shipping notice (ASN) to its customers.

Trelleborg piloted the solution in its Sandusky, Mich., plant, and has since deployed it at two locations in Morganfield, Ky., as well as at a second location in Sandusky.

Staff in the receiving area only required minimal training, since they had been using a similar system already. "In production, these people had never seen the scanners," Jacobs says. The production staff had longer training sessions. "That was really good, because the users suggested improvements during the training, and we could implement them quickly using *QuikTrac*. Since I was able to become expert with the system in a short time, the changes were implemented within hours while we were still doing the training," he adds.

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## Bar Coding Brings Operational Improvements

Trelleborg has seen significant improvements in accuracy and efficiency since deploying the end-to-end bar code system. The company has cut its physical inventory effort by 50% by replacing the manual system. "It was extremely labor intensive and mistake prone, because everything was handwritten and we'd have to interpret that after everything was done," Jacobs says.

Operators on the plant floor no longer have to manage the paper job tickets, and can concentrate on their work. "We build a full skid of product as finished goods are made," Jacobs says. "It used to take ten hours to fill one skid of product, but now it takes less than eight hours to do that."

He says that inventory adjustments at the pilot facility are down as well. "We found some machinery on the floor that was miscounting product, and we were able to catch those mistakes and fix the problem," he says.

Shipping accuracy has also improved. "We've caught mistakes like the wrong product being scanned, and we've stopped some raw material from being shipped out the door," he says. "The system alerts you right away if you've got the wrong box. We've definitely seen improvements there."

The IT staff can also easily take the *QuikTrac* solution offline without disrupting any operations in order to work on the ERP system or run reports. This functionality also keeps things running smoothly if the back-end system should happen to go down unexpectedly.

If our system goes offline, the users don't have to sign off or even know the system went down," Jacobs says. "They just keep working."

Trelleborg operates eight plants, and Jacobs says the company plans to roll the system out at additional facilities in Michigan, Illinois and Mexico.

Eventually, the system will allow Trelleborg to track raw material usage during production. "We'll be able to watch how much material we're actually using, compared to what the bill of material says we should be using," Jacobs says.

*QuikTrac* will also help the company compare the overall equipment effectiveness of its machines during production, which will improve efficiency even further and allow for preventive maintenance.

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**At a Glance**

Trelleborg Automotive Americas, Sandusky, Mich.

**Application:** Shipping, receiving, inventory management into their System 21 ERP software (Formerly JBA International)

**System:**

*QuikTrac* software from Integrated Barcoding Systems

Intermec CK31 hand-held computers

Zebra Technologies bar code label printers

**Benefits:**

- \* Eliminated manual paperwork
- \* System can be taken offline without interrupting workflow
- \* Reduce the time for taking physical inventory by half
- \* Operators can now focus on running their machines instead of handling paperwork
- \* Time to build a skid of product cut from ten hours to eight hours
- \* Inventory adjustments reduced
- \* Shipping accuracy and efficiency improved

Integrated  
Barcoding  
Systems

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*A Data Collection Solutions Provider*

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