

Case Study



Quite a Catch: Zebra Helps Fish Supplier Meet RFID Compliance Requirements

Challenge: When Wal-Mart announced a major radio frequency identification (RFID) phased implementation initiative requiring its top 100 suppliers to apply RFID labels to shipments starting in January, 2005, Beaver Street Fisheries, a fish and seafood distributor in Jacksonville, Fla. stepped into gear. Although Beaver Street is not one of Wal-Mart's top suppliers and had until 2006 to comply, the company challenged itself to exceed expectations and be part of the first wave.

As a result, the effort netted Beaver Street Fisheries a compliance tagging system that was in place more than a year ahead of deadline, and has positioned the company to gain the early adopter advantages it sought.

Beaver Street Fisheries imports from more than 50 countries and provides frozen fish, meats and prepared foods to Wal-Mart, as well as other retailers, restaurants and institutions. When Wal-Mart presented its phased RFID supplier tagging requirements to its vendors, Beaver Street Fisheries learned only three of its product lines would be affected, and thus would not have to label its products with Electronic Product Code (EPC)-compliant RFID tags until January, 2006. Rather than wait, the company decided to use the time to get ahead.

"We made a decision to be proactive with RFID," said Beaver Street Fisheries' CIO Howard Stockdale. "There's no real slam dunk ROI that is served up on a silver platter by RFID. We are thinking about how we can use it to get more efficient as we grow."

The first step for Beaver Street was solving the challenges of finding the best types of RFID tags and labels for its products, and learning how to encode and apply them reliably to cases and pallets. Beaver Street Fisheries had no previous experience with RFID, and its eight-person IT department was also involved in two other major, high-priority projects. To get started implementing RFID, Beaver Street Fisheries contacted Zebra Technologies, its solutions provider for bar code labeling systems. "We've used Zebra bar code printers for many years and they work great," said Stockdale. "There was no reason for us to look elsewhere."

Zebra recommended The Danby Group, a Zebra Premier Partner and a Zebra Authorized RFID Specialist experienced with both RFID and compliance labeling systems, to work with Beaver Street Fisheries.

Solution: Working with The Danby Group, Beaver Street Fisheries set up an RFID test lab in its warehouses and conducted three pilot projects. The Danby Group integrated the smart label printing/encoding operations with Beaver Street's enterprise applications using rfid>Genesis, a software integration product developed by Franwell Inc., and tested various label placement options and types of EPC technology.

To label the subset of its cases and pallets that require EPC tags for Wal-Mart, Beaver Street Fisheries developed a cart-mounted smart labeling solution. A Zebra R110Xi printer on the cart encodes RFID inlays embedded within the label material and prints a 4-by-6-inch label in a single pass. The printer validates that tags are readable before they are encoded. If the tag is unreadable, "VOID" is automatically printed on the label, and a new label is encoded and produced.

Zebra's R110Xi™ printer



Tagged cases are passed through a portal reader to ensure the RFID tags are still readable after they have been applied to cases. The density and moisture content of each package of frozen fish is not identical, which makes reading performance inconsistent and occasionally results in unreadable cases. The Danby Group and Beaver Street Fisheries developed an order confirmation application that uses rfid>Genesis to process data from the portal reader and compare the items with the customer's order, which is held in a SQL server database application.

Beaver Street Fisheries is using UHF Class 0+ and Class 1 EPC inlays in its smart labels, which are currently approved and accepted RFID tag technologies. Wal-Mart will eventually require EPC Class 1 Generation 2 (Gen 2) RFID technology, but not until the specification is completed and compliant products become commercially available. Until then, Wal-Mart is accepting a variety of EPC technologies.

"The R110 printers are great because they can encode both Class 0+ and Class 1 tags," said Stockdale. Through a free software download, the R110Xi also is field-upgradeable to encode Gen 2 tags.

Beaver Street also uses a Zebra R4Mplus™ for some Class 1 encoding, and plans to deploy Zebra's R110PAX3™ print engine as part of an inline printing/encoding system that will automatically apply 6-by-12-inch corner-wrap labels to cases.

Results: Beaver Street Fisheries met its compliance requirements more than a year ahead of schedule, and is positioned to expand its tagging as necessary. The company is also positioned to seamlessly upgrade to Class 1 Generation 2 technology with no new investment required in printing equipment.

"Beaver Street has gone from managing shipping with a clipboard, to employing cutting-edge RFID technology," said Rich Bruce of The Danby Group. "Its management had a vision. They wanted to be the first in their industry to be RFID-enabled. Now they are capitalizing on this vision to improve their business."

Stockdale is now looking beyond compliance to find ways to improve internal operations with RFID. "There is not a whole lot of efficiency to be gained by just doing slap-and-ship," said Stockdale. "We're exploring how we can apply RFID to different areas. We are asking, 'How can we leverage RFID to make the most of our investment.'"

One potential application is to use shipment data collected via RFID to automatically create a bill of lading and advance ship notice for electronic data interchange (EDI) transmission.

Another option is to push compliance labeling requirements to Beaver Street Fisheries' worldwide suppliers, so products would be tagged at their source. Stockdale has implemented a test with Beaver Street's Nassau subsidiary to tag product shipped from the Bahamas to the Jacksonville facility. He plans to use ZebraNet remote printer monitoring and control capabilities from Zebra to automatically generate smart labels. If this test is successful, this same method will be used with their many partners at their overseas packaging facilities so product could be labeled onsite. This allows Beaver Street to track all product received, inventoried, converted, and shipped at the corporate facility via RFID.

"We have a lot of visions about what we can do with the technology. It's very powerful, but it requires changes to business processes and software engineering," said Stockdale. "We have looked at doing many different things with RFID, and I have a lot of confidence that Zebra will be able to support our continuing efforts. We've used their bar code printers for years, they just work like a tank, and I don't think that smart label printing will deviate from our Zebra experience."

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