



Company: Griva S.p.A.
www.grivaonline.com

Application: EPC-compliant fabric roll tracking

Area of Use: Manufacturing warehouse (1,000 sq. meters)

Tag Supplier:
 Alien Technology®

Frequency: UHF 866MHz

Reader Supplier:
 Alien Technology

System Integrator: Simet
www.simet.com

Challenge

- Use RFID to efficiently track fabric rolls through manufacturing at Griva S.p.A
- Replace inaccurate bar code system with RFID

Solution

- Griva worked with Simet to develop the world's first EPC-compliant fabric roll tracking application
- Toolset includes:
 - Alien® ALR-8000 series readers
 - EPC-compliant Alien Gen 2 Squiggle® tags
 - Simet Middleware, to interface Alien readers with Griva's ERP

Benefits

- 30% ROI, including efficiencies in logistics and warehousing costs
- Reduced shipping costs for the fabric rolls
- Increased traceability of 300,000+ roles of fabric

ITALIAN TEXTILE FIRM WEAVES RFID INTO A COST-SAVING MANUFACTURING SOLUTION

Textile manufacturing is a highly specialized and competitive business that relies on multiple technology solutions to provide efficiencies during manufacturing. Because textile manufacturers start with simple raw materials—thread—that they must convert to finished fabric rolls, one of their biggest challenges is managing inventory through each phase of production.

During manufacturing, the fabric maker must maintain strict quality control of its inventory at all stages, ensuring that each individual fabric roll undergoes specified treatments and processes, including washing, dyeing, and drying. The manufacturer also has to size, cut, and prepare its finished inventory for distribution and delivery to literally hundreds of different vendors around the world.

CHALLENGE

Textile manufacturers continually look for innovative ways to streamline their processes and manage inventory and production. They rely on automated manufacturing systems to increase profitability and maintain the lowest possible logistical costs during manufacturing.



One such manufacturer is Griva S.p.A. Based in Torino, Italy, Griva is one of the world's leading high-volume textile manufacturers and produces more than 300,000 rolls of fabric each year. It distributes 500 pieces of fabric, equal to 20,000 meters, each day. Its textiles are used for upholstery and drapery and sent to leading European retailers. Griva also produces fabric for the wildly popular Hello Kitty line of sheets and pillows.

With this diversity among its fabrics, Griva has to maintain highly accurate inventory control. It must trace the textiles starting with the initial raw thread material to woven fabric and finally to distribution and shipment of the fabric rolls.

Adding to the traceability challenge is the fact that the fabric rolls undergo multiple treatment processes as they move through Griva's warehouse. These treatments include exposure of the fabric to harsh environmental factors, such as high temperatures, water and high humidity, and potent chemicals used in the dyeing process. In addition, the fabric—and subsequently the inventory tracking used on the rolls—has to withstand machine cutting and sizing, transporting, and shrink wrapping.

For years, Griva depended on traditional bar coding systems to track its fabric rolls through its manufacturing process. However, the bar code system was not accurate, mostly due to the mechanical

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and environmental stresses placed on the bar codes. So when Griva was ready to open its new automated warehouse in 2006, it decided to partner with Simet, an Italian RFID integrator, to help solve its fabric roll tracing dilemma.

“Griva’s bar code labels were often destroyed by mechanical stress,” says Claudio Bertoldo, director of marketing at Simet. “Proper inventory control at Griva was not possible with bar codes.”

SOLUTION

Simet recommended RFID solutions from Alien Technology and developed a complete RFID textile tracking solution for Griva. Simet started the implementation with Alien Gen 1 RFID products but eventually moved to Alien’s Gen 2 reader solutions. The ALR-8000 was built for optimal Gen 2 performance. It is fully compliant with the European Telecommunications Standards Institute (ETSI) EN 302-208 specification.

On the fabric rolls, Griva used EPC-compliant Alien Gen 2 Squiggle tags. The Squiggle tag is a high-performance solution that is effective for the harsh conditions in textile manufacturing. The Squiggle tag supports global operation at 860 to 960 MHz and sets the EPC Class 1 Gen 2 price performance benchmark. The Alien Squiggle tags and reader combination offer optimal read range and read consistency performance.

Simet also built a reader-to-ERP interface, a middleware application that works with Griva’s existing ERP software and controls the readers via the Alien Reader Protocol.

Initially, the RFID system ran side-by-side for six months with Griva’s existing bar code system, explains Bertoldo. “When we compared and double-checked results from the bar code system to those from the RFID solution, we knew immediately that RFID was the right choice for Griva,” says Bertoldo. “RFID is highly accurate.”

RESULTS

Simet’s RFID solution at Griva was able to overcome all the problems Griva had previously faced

with bar codes. With the RFID in place, Griva can guarantee traceability during all phases of fabric production and logistics.

Alien’s Squiggle tags passed the “plastic film” test that bar coding had failed. The plastic film used in shrink wrapping that protects the fabric during shipping frequently hid the old bar codes. With RFID, Griva can efficiently track rolls that are wrapped and ready for delivery, which saves time and also provides its customers with the most accurate information about the finished fabric.

The RFID tags also allow Griva to sort its fabrics automatically in the warehouse. By associating ID information to each roll (such as product type, weight, and diameter), the roll can move efficiently through the warehouse to its next checkpoint. By having readers at various checkpoints, operators can decide instantly whether a roll should be moved into a storage facility or prepared for immediate shipping to a customer.

In the ending stages, the automated system uses the RFID tag information to determine final packaging and the most cost-effective transportation options for each roll, explains Bertoldo. Using the fabric’s weight and destination information, warehouse operators can build customized shipping boxes and prepare each roll for its final distribution and transport by designated carriers.

BENEFITS AND NEXT STEPS

These logistical efficiencies in the warehouse have given Griva a noteworthy ROI on its RFID system. “By implementing an EPC-compliant fabric roll RFID tracking solution, we have reduced expenses, saved time, and improved customer satisfaction with our finished products,” says Gualtiero Casalegno, president/CEO and owner of Griva. “We have seen an ROI of 30 percent in just over nine months.”

The next phase of the project will include installing more readers in the warehouse, so the operators can check inventory counts overnight, says Bertoldo. Griva may also implement portable readers in the warehouse.

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*Claudio Bertoldo,
Director of Marketing, Simet*



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