Decathlon is one of the world’s major retailers of sporting goods and equipment. The French company sells more than 600 million individual products every year through a network of more than 900 stores in Europe, Africa, South America and Asia, and in 2014 generated revenues of €8.28bn. More than 80% of products sold consist of Decathlon’s own brands while the rest are made up of globally known sports brands. Decathlon manages a global complex supply chain and decided in 2010 to start employing RFID technology to streamline and improve product tracking. Today, the retailer is using RFID labels to tag over 85% of their products.

THE CHALLENGE

When considering to deploy RFID tagging, Decathlon’s main goal was to increase product availability in the stores. They wanted to ensure that sales were not being lost because shoppers were not able to find desired products. The challenge was to deploy the RFID tagging solution for their own 20 brands for which Decathlon directly manages the manufacturing, and for many other brands they resell, which many of are supplied directly to Decathlon’s distribution centers.

Decathlon is a very innovative company and likes using new technologies to improve their customers’ shopping experience. Using RFID innovation would also facilitate an accelerated checkout experience, which together with improved product availability convinced them to make the strategic decision to deploy an RFID solution.

THE SOLUTION

Decathlon’s RFID solution is integrated in all steps of their supply chain. The factories, more than 40 distribution centers, and more than 900 stores are equipped with and reap the benefits of RFID.

Decathlon started the source-tagging of all its own branded products at the manufacturing plants in 2013. RFID labels were placed on items during the manufacturing process, encoded with a unique identification number stored in the retailer’s database.

Decathlon tracks products throughout the entire supply chain, from factories to the distribution centers and stores all over the world. In the manufacturing factories, Decathlon suppliers use handheld RFID readers to record and track the shipping of goods to the distribution centers. The RFID identification makes the tracking process easier and faster, and reduces the risk of error.

When a product arrives at a distribution center, using fixed RFID readers the product ID is read from the RFID tag and recorded. The products are then stored for the picking process. Non-Decathlon items which are not yet source-tagged at the factory are tagged with an RFID label at the distribution center. In total, more than 85% of products are RFID tagged.
Decathlon uses the Tageos 100% paper-based EOS-300 Monza R6-P RFID label to tag non-Decathlon products at the distribution centers. The label (54x34 mm/2.13x1.34 in) has been specifically designed for Decathlon in order to match the various types and sizes of product items to be tagged. It comes in a specific format as a double sticker: on the backing sheet, alongside of the standard EOS-300 label, a smaller non-RFID blank sticker is used to print some visual data to help logistics staff during the labeling process.

Their Toshiba printers, remove the boxes lids and load the labels. They launch printing jobs of 16000 labels (instead of less than 4000 labels if using rolls) and thereby reduce the frequency of reloading the rolls in the printers.

The labels are printed and encoded with a unique identification number. Once the source-tagged goods are received and the other branded goods have been RFID tagged, different types of RFID systems such as mobile readers or RFID reading tunnels are used to perform cycle counts and shipping control. Decathlon can ensure that the right products are shipped to the right stores.

After products arrive at the stores, they are placed on display shelves ready and available for shoppers. Store staff use an ergonomic and light RFID handheld reader connected by Bluetooth to a smartphone, to perform shelf inventories, 5 times faster than with the former systems and technologies.

Decathlon also installed RFID based check-out systems in order to facilitate and accelerate the payment process. The system consists of an RFID reader embedded into the check-out table. When a customer wishes to check-out, the cashier simply passes the products across the top of the table to read the product RFID ID encoded onto the label without having to use a traditional barcode system.

The retailer installed EAS-RFID gates at the stores entrance. RFID tags are detected when passing through the gates so the system can check if the products have been purchased or not, and thus start an alarm to alert the security staff.

**THE BENEFITS**

Only five years after the first RFID tests took place in 2010, the RFID solution deployed by Decathlon showed gains within the whole supply chain. Among the multiple benefits of the solution, the improvements on inventory tracking and shelf availability are significant. Thanks to the RFID tagging of every product, a full store inventory can be performed as often as every 1-4 weeks depending on the store, instead of twice per year using barcodes. The overall product visibility is improved and labor costs have been reduced. The result is much improved product availability and a reduction of lost sales.

In manufacturing factories, from the tagging to the shipment, in distribution centers receiving, inventory fulfilment and order preparation, and in stores for shelves inventory and payment, the RFID deployment at Decathlon had a positive and measurable improvement on key logistics and store processes, reducing related operational costs while providing a complete visibility of items and improving customers experience and satisfaction.

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**TAGEOS 100% PAPER LABELS PROVIDE A COST-EFFECTIVE AND SUSTAINABLE RFID SOLUTION**

Tageos RFID labels are made of 100% paper. Using its unique and globally patented manufacturing process, Tageos has developed a range of 100% paper-based RFID labels that are devoid of plastic. Doing away with the traditional and costly plastic inlay, Tageos 100% paper-based labels allow Decathlon to benefit from a really cost-effective RFID solution.

Moreover, the absence of plastic and the reduced amount of glue and metal required during the label manufacturing result in a significantly less polluting RFID label that helps the retailer reducing its ecological footprint.

“Our labels come at reduced price compared to the market’s average. This helped Decathlon to deploy a cost-effective RFID solution. The labels have been designed and manufactured in our French plant, and have all passed a strict quality testing process.”

Matthieu Picon, CEO, Tageos

One of the other specific advantages of Tageos labels is inherent to their 100% paper-based structure. The labels are thinner and lighter than plastic-based RFID labels. This particular feature allows a significant optimization of their packaging and has a direct positive impact on the transportation cost for Decathlon.

In order to take an even greater advantage of this benefit, Decathlon and Tageos have worked intensively on the label packaging itself. The retailer opted for a fanfold stack form which allows doubling the number of RFID labels (8000 RFID labels per stack) compared to using roll form. Tageos developed a dedicated packaging for those fanfold stacks. A large custom box contains two smaller boxes of 8000 RFID labels carefully packaged in order to facilitate the printing process in the distribution centers. Decathlon operators simply grab a large box of 16000 labels and place it behind the number of RFID labels (8000 RFID labels per stack) compared to using roll form. Tageos developed a dedicated packaging for those fanfold stacks. A large custom box contains two smaller boxes of 8000 RFID labels carefully packaged in order to facilitate the printing process in the distribution centers. Decathlon operators simply grab a large box of 16000 labels and place it behind.