case study

Trasluz Casual Wear Stitches Up Stylish Efficiency with an RFID Solution from Intermec by Honeywell

Trasluz Casual Wear launched its business operations in 1999 with the objective of becoming an established brand in the children's fashion industry. Based in Burgos (Spain), the company designs and sells clothing for children aged between 2 and 16.

The company sells its products in its home country Spain as well as to Portugal, the UK, The Netherlands, Italy, Germany and the US, and is expanding its market presence using franchises, multi-brand channels and online sales.

With these ambitious expansion plans, Trasluz decided to introduce state-of-the-art technology in order to automate the maximum number of logistics and distribution processes possible, and set up an effective track-and-trace facility to trace every item of clothing ordered – from production through to delivery to the end client and all reverse logistics stages.

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The chosen solution was an identification system based on passive RFID technology, which is fully integrated into the management software of the company.

Intermec by Honeywell and TAG Ingenieros were responsible for analysing, designing, planning and executing this project, as well as for developing middleware that manages RFID infrastructure, and designing innovative products such as reading portals and anti-theft devices. The project had two key objectives. The first was to adapt the central management system in order to facilitate quick access to detailed and reliable information on all products and orders. The second was to introduce logistics technologies to allow for identification and traceability in all company processes: source tagging, central warehouse delivery, stock lists, dispatch, shop delivery, multiple sale, shop stock levels and refunds.

RFID was identified as the only technology able to offer Trasluz the solutions required to meet their business challenges.

Trasluz exploits the breadth of the Intermec by Honeywell RFID portfolio in this project: IF2 and IF61 readers, IA36 antennas for warehouse conveyor belts, IF2 readers for shop display counters and anti-theft points, as well as rugged handheld computers with IP4 and IP30 handles for RFID mobile readers.

> "The RFID system offered us everything we were looking for – both for our shops and the company's overall logistics processes."
>
> **— Santiago Iglesias, Development Director at Trasluz Casual Wear**

Santiago Iglesias, Development Director at Trasluz, explains the origins of the project and the reasons why the company chose RFID technology for identifying clothing items.

"We opted for RFID technology because it encompassed everything we were looking for, not only for our shops and franchises undergoing expansion, but it also met the needs of virtually all the company's logistics processes. We read a case study about RFID which showed how this technology was able to significantly simplify many of the tasks most dreaded by every textile company: traceability from the start of the supply chain, warehouse and shop stock lists, shop supplies etc. Then we contacted TAG Ingenieros, our technology provider, who advised us on the best course of action and they later installed the system for us."

"We believe, Trasluz was the first textile company to incorporate RFID technology into our entire logistics chain – from production activities to delivery to the end client and we can clearly see the benefits that RFID brings to the company."

Source Tagging

The use of RFID technology in Trasluz's logistics processes starts with the printing and encoding of source tags as part of the production process for every item of clothing; a passive UHF tag which includes information on each garment is attached to every clothing item manufactured.

Source tagging is performed at Trasluz's own external production units, although the company has a centralised tagging system which provides a very simple way of controlling and configuring the printed serial numbers. Trasluz sends the clothing designs to the production centres, as well as the plan for tag production. This gives great flexibility when printing tags based on their order and reference, and allows tags to be printed as and when necessary according to the orders placed.

The Central Warehouse

Once the items of clothing have been tagged, identified and boxed, they are taken to the central warehouse. There, the receiving system uses RFID readers which validate the receipt of incoming goods. The readers have significantly optimised the goods receipt process as the RFID technology enables hundreds of tags to be read at one time without having to open the boxes.

At the warehouse entrance, TAG Ingenieros has designed a portal which uses Intermec by Honeywell IF2 fixed readers and IA36 antennas. These are able to read an entire pallet of boxes containing up to 1,700 clothing items.

Picking and Stock List

The central warehouse is responsible for supplying the shops with merchandise. When shops place an order, the warehouse workers – who are in charge of supplying the correct goods – have Intermec by Honeywell rugged handheld computers with IP4 and IP30 RFID handles, which they use to identify the items of clothing and complete the order.

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In the same way, rugged handheld computers administer stock-taking by scanning the areas where the articles are stocked (without having to directly aim the terminals at the tags). This saves a considerable amount of time and resources when checking stock levels.

Dispatch

Once the franchise orders have been completed, the warehouse uses another RFID portal which incorporates an IF61 RFID reader for the identification of items to be dispatched. The system ensures that the packages correspond to the orders placed and enables errors to be detected during order preparation, helping to speed up resolution and avoid costly refunds or claims to the shop network. When loading the packages, the system is responsible for sending automatic messages to the respective franchises, allowing shops to prepare for receiving the incoming goods.

Shop Delivery

Once the orders have been delivered to the shop, a reading is taken (without having to open the boxes) using rugged handheld computers with IP4 and IP30 RFID handles. The information obtained is uploaded to the shop system which checks that the order placed matches the delivery. If everything is correct, a notification is sent to the central warehouse.

If any error or discrepancy with the order is detected, a notification is sent, instantly informing the relevant individuals about the issue. This allows any problems to be quickly remedied without affecting the normal processes of the shop in question. The rugged handheld computers are also used to check shop stock levels. The delivery team scans the areas used for exhibiting products, including shelving areas and the stock room. This information is compared in real time with the information available in the shop software.

Moreover, to verify the stock-taking process, a series of control points are spread out and integrated into the shop furnishings. These are then used to indicate if there are any areas or shelves where stock levels must still be checked.

Thanks to RFID technology, staff at each of the shops can check stock levels much more quickly and frequently, as clothing tags can be read simultaneously and at a much faster rate.

In-shop Management

Shop display counters are also equipped with IF2 readers connected to POS terminals, which means it is not necessary to read the codes one by one for each item of clothing. When the clothing items are placed on top of the counter, the total price of the clothing is calculated in real time. This considerably speeds up the work of shop assistants, improves service standards and customer service, and prevents queues forming.

The application that manages the POS teminals was created by the Spanish company Gestiweb, and was integrated with the TAG Ingenieros middleware. One of the functions of the shop management system is to automatically generate orders in order to avoid stock depletion.

Reverse Logistics

The new Trasluz management system is also set up to manage reverse logistics.

When an item of clothing is rejected by a shop for any reason (poor condition, return by the end client or error linked to the initial order), a return process to Trasluz's central warehouse begins. RFID technology enables these returns to be made more swiftly. In addition, the system reports item returns.

Process Optimization

Such a ground-breaking project has presented Trasluz with a number of challenges.

"In 2009," says Santiago Iglesias, "the decision was made to integrate RFID technology into the Trasluz expansion model of franchising. Initially, Trasluz tagged clothing items, and all the items which were supplied by our external providers, in their central warehouse in Burgos – a process which turned out to be relatively complex. Later, we resolved this issue by tagging items directly in their place of manufacture (China), with coordinated printing and encoding from Spain, thanks to an application provided by TAG Ingenieros."

RFID technology has had a huge impact on both the company's logistics process and the work of warehouse employees. "Many of the tasks that previously required significant effort and focus are now carried out automatically, reducing the likelihood of error and the completion time, which in turn allows operators to focus on more specialised tasks that demand their intervention," adds Iglesias. "In stores, shop assistants are able to focus on the company's main concerns – providing excellent customer service and boosting customer loyalty, resulting in greater productivity worldwide."

"The response of operators and shop assistants has been very positive; staff benefit from obvious improvements such as an in-shop stock list and the time they save as a result of using this technology."

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Anti-theft Systems

All the tags attached to the clothing items have an anti-theft element installed, which is deactivated the moment a client reaches the shop counter and pays for their purchases. TAG Ingenieros developed two specific solutions to check the anti-theft information on the tags, which both use the Intermec by Honeywell IF2 reader. The first is a mat antenna, installed at the main doorways and the second is a traditional anti-theft checkpoint system, called "Totem," which is to be installed in a number of shops over the course of this year.

The Benefits

Trasluz has identified numerous benefits of using RFID technology for its operating processes.

- Firstly, many fewer employees are required for managing the warehouse, as both receipt and dispatch processes are automatic – in other words, they pass through reading portals. The system checks that the different batches match the orders placed. Trasluz has estimated that time required for receiving goods has now been cut by half.
- Apart from being faster, dispatch processes are also 100% reliable - errors and their associated costs are eliminated. Trasluz has also been able to fully automate their reverse logistics.
- Furthermore, the company has successfully managed to reduce the number of thefts in transit as the rugged handheld computers carry out immediate checks on goods entering the shop and compare numbers with the order data. Discrepancies and losses during transport of shipments from warehouse to stores have also fallen considerably as shipments are automatically checked at both locations.
- Time savings are another great benefit enjoyed by Trasluz when carrying out tasks such as stock-takes. Stock levels of a shop can be checked in less than an hour, whilst warehouse stock checks can be carried out in just one working day by two employees.
- When the client places clothing items on the point of sale counter, the system automatically detects the need to generate an order to prevent stock depletion.
- In short, Trasluz has successfully achieved total control of all its processes and activities in real time – from the start of the chain (production) until the item of clothing reaches the end client, including returns.

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