

White Paper

## **FROM THE BOARDROOM TO REALITY:**

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RFID In The Fashion Apparel & Textile Industry

By

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## FROM THE BOARDROOM TO REALITY

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Many Fashion Apparel & Textile companies—particularly those with a large network of stores—are well underway in terms of streamlining their supply chain and optimising sales forecasts and distribution. They are now looking for ways to enhance revenues and market share by adopting modern ways of managing stores and inventory. RFID has now become a centrepiece in their strategic thinking. Some companies are also stepping up the process into actual implementation. Here is how this develops:

### A NEW BUSINESS MODEL FOR FASHION APPAREL & TEXTILE CHAINS

Leading Fashion Apparel & Textile companies have significantly modified their business model.

Shifting away from manufacturing, Fashion Apparel & Textile companies have built competitive advantage, based on new ways of delivering value to their consumers:

- They offer a brand-driven “total look” where apparel and shop design plays a key role in attracting and retaining clients
- They propose an increasing number of collections each year
- They offer a greater choice in terms of items, size and colors
- They make every effort to have a full range of goods available to their customers in all shops
- They lower retail prices, enabling customers to purchase more articles more often

A new business model has developed and stabilised based on a centralised approach to design and logistics. A typical business model now includes central design, hundreds of external suppliers (most often in Asia), and one or two central warehouses that serve as a logistical hub for stocking a large network of retail outlets:

### The New Fashion Apparel & Textile Business Model



New operational challenges have developed in the last decade for those large-scale companies and most of them are now well under control:

- Developing and implementing “push” policies
- Creating the conditions for better flexibility and reactivity at the supplier level
- Enabling faster goods rotations
- Implementing demand planning processes and linking them to their supply chain systems

New internal metrics have developed as key performance indicators of the modern Fashion Apparel & Textile Company:

PERFORMANCE INDICATORS	IDEAL TARGETS	CURRENT PERFORMANCE
Design-to-Dist. Ctr. (DC) time	< 2 months	2-6 months
DC-to-store time	1 day	1-3 days
Inventory accuracy	< 1%	Not sure*
Shrink	< 1%	1-6%

\*Most often, companies do not have a measurement system attached to this metric.

## THE NEW FRONTIER IS IN THE RETAIL STORE

The cost-cutting side of supply chain management is behind us to a large extent. It has already yielded most of its benefits.

The time is coming for additional revenue generation. Today, most large network Fashion Apparel & Textile companies focus on improving the “store side” of their supply chain and distribution operations:

- **Near-real-time or real-time inventory management:** Though supply chain management systems, ERP and store management software allow accurate monitoring of stock positions, companies seek to compensate for uncertainty related to shrinkage and process malfunctions. They also strive to shorten warehouse-to-store times and optimise DC utilisation. This is accomplished by moving from nighttime uploading of store data to the centralised system to a near real-time information flow.

In those networks where stores are still split into front and back rooms, splitting inventory between the two parts of the shop is nearly impossible. This creates uncertainty in inventories and difficulties in ensuring on-shelf item availability.

- **Better use of staff time:** Where customer-facing staff needs to spend time implementing inventories, it is felt that this time should be freed-up for working with customers.
- **Just-in-time adjustments to the store restocking parameters:** Based on better information flows, companies try to improve availability of all stock positions at store level and shorter restocking of missing positions.
- **Consumer research points to important potential benefits:** Clients who cannot find an item on a shelf are likely to purchase an equivalent product from another store on the same day. As a result, physical product display arrangements play a critical role in merchandising and in optimising store revenues.
- **Potential return is high:** This is in terms of both financial performance (up to 5% additional sales) and competitive advantage on the consumer side (improved market share).

## RFID FOR FASHION APPAREL & TEXTILE—CURRENT VIEWS AND FUTURE PLANS

Some leading Fashion Apparel & Textile industries are moving towards a proactive management of the technology. Up until 2003, the primary reasons for keeping a low profile position in RFID were associated with unit costs and RFID technology reliability. Today, companies that have decided to move forward are banking on lower RFID tag prices and highly accurate results.

Active Fashion Apparel & Textile chains are absolutely confident that the first benefits of RFID implementation will come from store-level applications such as real- and/or near-real-time inventory linked to stock management systems and store re-stocking processes.

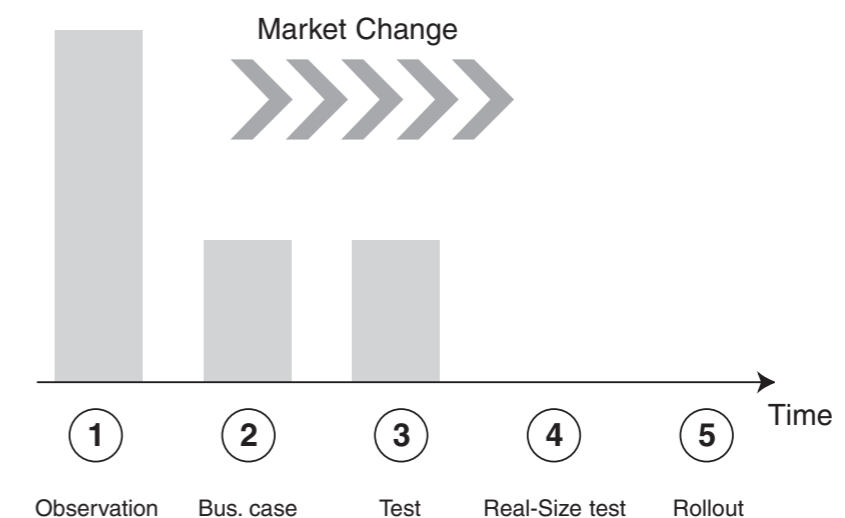
To quote the Global Logistics Manager of a large international chain: *“From rolling out store-level applications, we will harvest most returns and we will master the highest complexity in RFID. The number of stores in the network is THE multiplier. Other benefits, at DC-level or in the transportation system, will come by themselves...”*

A typical store-level application plan includes the following elements:

- Item-source tagging
- Automated counting of box content at the DC level
- Automated box content-checking at the store entry level
- Automated or partly automated in-store inventory checks (real-time or near-real-time)
- Daily or real-time upload of actual stock positions to the central systems
- Adjustments to re-stocking programs, particularly on fast-rotating items
- Earlier start of DC operations
- Reduction of DC-to-store time
- Daily reporting on store-level shrinkage and appropriate action taken, resulting in shrink reduction

Current positions regarding RFID applications in the Fashion Apparel & Textile Industry and prospective changes are summarised as follows:

### RFID Store Applications: Current Positions and Evolutions



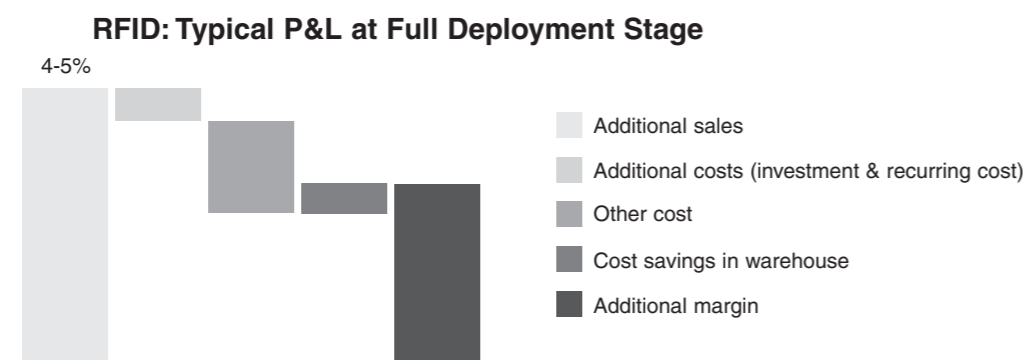
Typically, industries go through 5 steps in implementing a store-level RFID initiative:

STEPS	KEY COMPONENTS
1. Market Observation	Talking to business specialists, they gather information on technology accuracy and reliability, costs and future trends.
2. Business Case	<p>Metrics are designed and implemented on core store-level and DC-level processes. Consumer behavior is assessed.</p> <p>The upper line of the business case is built upon additional sales-related issues, improved inventory, stock management and store re-stocking refinements.</p> <p>Cost savings include staff time allocations, counting/checking shrink reduction.</p> <p>Costs include hardware and software technology (tags, readers, software and middleware), integration, training, rollout and systems operation.</p>
3. Technology Test/Adaptation	Companies implement a simulated store environment and test accuracy and reliability in boxes, on shelves and on hangers. This step lasts for a period of a few months.
4. Real-size Test	Companies implement a live test in one or several stores to prove the business case and check applicability of store-level processes in a live environment. Assessment metrics are those of the business case (additional sales and cost reduction). This step lasts about six months.
5. Deployment/Rollout	Rolling out to the network. It is envisioned that rollout should be as fast as possible in order to realise a quicker Return on Investment. A critical preoccupation is also to avoid the coexistence of several processes and to drop legacy processes as soon as possible.

### BUILDING THE BUSINESS CASE: NETWORK SIZE IS THE MULTIPLIER

**A quasi consensus emerges in the Fashion Apparel & Textile Industry: With tag prices at about 10 €cents per unit, and reading accuracy at 98-99%, RFID applications in the store offer a compelling business case.**

Based on gathered information at Management Team level, the economic return of an RFID initiative rolled out to a medium-size network (500 stores; 1 DC) would take the following shape in the following manner:



Better inventory management and better re-stocking generates additional revenues, reduced % of missed sales and lower shrinkage.

Cost savings are mainly generated in the Warehouses/Distribution Centers.

Initiative related costs include investment in hardware facilities, middleware, integration, RFID tags and rollout costs (training, implementation...)

Obviously, the larger the network, the higher the return. Proactive companies are considering rolling out to their whole network as quickly as possible.

Other potential benefits not covered in the analysis are better staff time allocation in the stores, reduction of transportation costs and specific processes automation at the DC level (such as increased automatic picking).

### TAKING THE RFID ISSUE FROM THE BOARDROOM TO REALITY

Moving from market observation to development of a business case is typically a Management Team initiative.

Typically, the role of the CEO is to initiate the business case, to assess the results with the Management Team in terms of competitive advantage and created value, and to decide whether or not to launch a pilot.

Senior Executives involved are most often the Chief Operating Officer, the Logistics Manager, the CTO or IT Manager and the CFO. In the case where a Network Manager is in the organisational matrix (the person who manages the stores network) this individual is also involved.

Most often, Fashion Apparel & Textile industries have built lean organisations, based on an intimate knowledge and control of their processes and metrics. They therefore tend to develop their business cases internally, with limited or no help from external parties such as consultants.

In building the business case, the following parameters are taken into account:

PARAMETERS	KEY COMPONENTS
<b>Shortcomings in the current processes and organisation</b>	<ul style="list-style-type: none"> <li>• Overall shrink % at store level and along the supply chain</li> <li>• Uncertainty rates in inventory at store level</li> <li>• Timeliness of uploading inventory positions to central systems</li> <li>• Lost sales related to inventory accuracy and re-stocking delays</li> <li>• Customer-facing staff time allocation</li> <li>• DC-level staff costs related to reception/shipping processes</li> </ul>
<b>Technology potential</b>	<ul style="list-style-type: none"> <li>• Required technology &amp; specifications: tagging/encoding, reading, software, middleware, integration</li> <li>• Adaptability to real network and process conditions</li> <li>• Accuracy: reading rates, collision rates</li> <li>• Cost and economies of scale</li> </ul>
<b>Organisational challenges</b>	<ul style="list-style-type: none"> <li>• Implementing item-source tagging with many suppliers</li> <li>• Securing collaboration from key stakeholders: hardware, software, middleware, label producers...</li> <li>• Defining the in-store and DC-level processes to accommodate the RFID investment</li> <li>• Ensuring compliance with consumer privacy regulations</li> <li>• Defining the rollout processes and timetables</li> </ul>

Today, several Fashion Apparel & Textile companies have taken those steps and decided to go further in implementing RFID pilots.

## CONCLUSIONS—RFID AT THE TURNING POINT

The Fashion Apparel & Textile Industry is at a crossroads in terms of RFID applications.

Obviously, in the short term, store-level applications are seen as the most promising ones mainly because of their direct impact on customer satisfaction and revenues.

Companies most likely to adopt such applications are those with the following profile:

### Typical RFID Candidates

- A single brand or a few fully-controlled brands
- A large and owned stores network (200 stores+)
- A strong push policy and an increasing number of collections per year
- A centralized logistical approach
- A limited number of Distribution Centers
- Existing streamlined processes supported by store management, demand planning and logistics management information systems
- A time sensitive re-stocking approach
- An emphasis on speeding up product rotation

For those companies, RFID represents a new opportunity for delivering value to both customers and shareholders. They try to maximise value by adopting an end-to-end approach to RFID adoption. However, they start with store-level revenue enhancing applications.

Other applications will also be looked at in the future. However, today they are still in the “infancy” stage:

**Brand protection applications:** Including RFID tags within textile items to prevent “leakage” into the “grey market.” This is mainly a Luxury Market application where the business case is built on lost sales and brand damage vs. technology cost.

**Multi-brand applications for Department Stores and Retailers:** The business case is the same as for that of larger scale networks. Technology applications are simpler to deploy (fewer stores/larger volumes), but involve a large number of mono-brand suppliers who also produce for other distributors.

## ACKNOWLEDGEMENTS

This paper was prepared in March 2005, based on a series of interviews conducted by Senior Management staff in some of the top Fashion Apparel & Textile companies in Europe, between November 2004 and February 2005. Interviews have also been conducted with specialists in the distribution, manufacturing and consulting sectors, as well as with experts in various other areas.

The interviews have been conducted and analysed by P2P Consultants, an independent strategy and marketing consulting firm based in Paris, France.

The following organisations took part in the interviews:

### Fashion Apparel & Textile Manufacturers & Retailers:

Jennyfer  
Camaieu  
Pimkie  
Celio  
Promod  
Kiabi  
Inditex Group (Zara)

### Luxury Brands:

Hermes (Paris)  
Ermenegildo Zegna  
Lacoste

### Retailers:

Printemps  
Decathlon

### Suppliers & Partners to the Fashion Apparel & Textile Industry:

Paxar  
Raymark  
Institut Francais de la Mode  
Cap Gemini  
Unifab  
Institut Francais du Textile et de l’Habillement  
Le Journal de la Logistique

French Department of Customs

## ABOUT THE COMPANY



TAGSYS is a global RFID solutions and technology company with a presence of over 50 million RFID tags, 50,000 reader systems and 500 installations in the world. With 16 years' experience in the RFID arena, TAGSYS' core competency is in enabling complete efficiency-driven, ROI-weighted solutions for identifying, authenticating and tracing items.

TAGSYS' expertise is in pioneering and implementing market and client dedicated traceability solutions that enhance productivity and efficiency for its customers. TAGSYS has applied this expertise to an ever-growing number of closed-loop and open-loop vertical markets and embedded systems. With an emphasis on item-level tracking systems, TAGSYS now offers innovative HF and UHF tagging solutions with the reliability and performance demanded by supply chain applications.

Complementing the TAGSYS product portfolio are total integration capabilities made possible by the company's global partnerships. Taken together with an impressive IP portfolio that includes patented, injection-moldable "micro-tags" and 3-D RAS (Reliable/Accurate/Secure) Tunnels, TAGSYS has emerged as the world's leading dedicated RFID supplier, delivering unique end-to-end RFID process automation solutions. TAGSYS is a veteran participant in the development of RFID standards with international organisations such as ISO and EPCglobal.

## CONSUMER PRIVACY ISSUES

Assumptions about what RFID technology can and can't do are often incorrect or just misunderstood. With the introduction of any new technology companies that are considering deployment need to be educated. RFID providers have an obligation to explain and respond to real and legitimate concerns about the path on which this technology may lead us.

From a technology perspective, RFID doesn't work like a GPS network. Read zones are very limited and are not setup to be real time locators to track tagged items at all times. Most RFID chips today use EEPROM memory technology, which allows data to be permanently removed from the chip. Implementation of a disabling feature or kill command has been specified by standards organisations such as EPCglobal, Inc. This feature provides the option for the chip to be turned-off at the point of sale if the consumer does not want to take advantage of after-sale benefits. This feature is embedded in all EPC products and will be incorporated in all of the integrated circuits that are based on EPC standards.

In addition, security encryption methods can be embedded onto the tag to ensure that the information on it can only be read or written by authorised users. The creation of encryption specifications for RFID tags by the standards bodies, which is now in process, is a vital step for ensuring widespread protection. Security encryption algorithms have already been established for the 13.56 MHz-based ISO/IEC 14443 standard used for automatic fare collection applications.

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