

# Plugging Profit Leaks in the Apparel Sector



## Potential Profit Leaks Away

**One can liken the apparel supply chain** to a water supply system, where the size (and cost) of the pipes depends on the volume required. Leaks along the way can be difficult to spot and repair, but the resultant and persistent loss can cause significant damage.

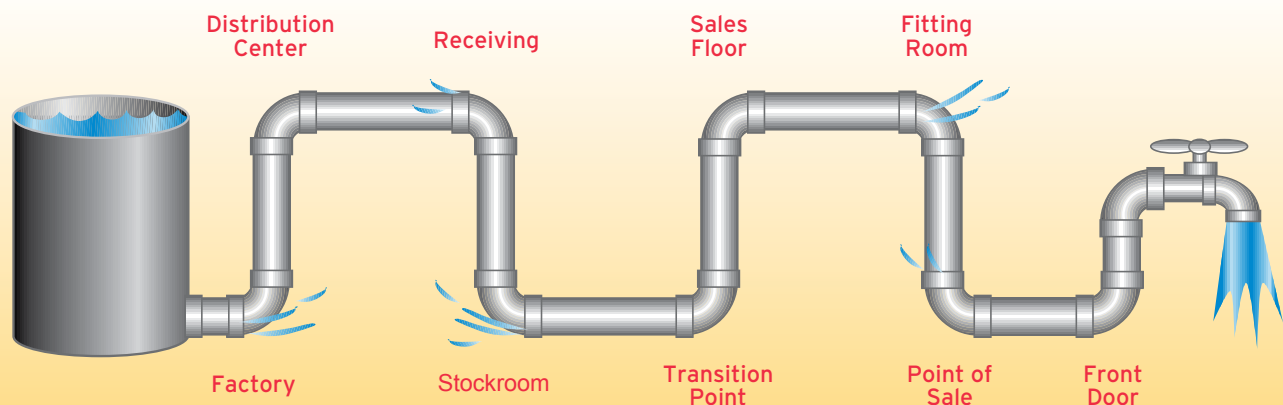
The good news for apparel and other supply chains is that RFID technology can not only help identify and plug leaks, but also increase sales (and profit margins) by enabling new up-selling techniques, ensuring availability of sales floor inventory, and providing store buyers greater insight into product performance.

Just where do most leaks happen? The figure below illustrates key apparel supply chain and in-store junctions.

At each of these points, RFID plays a key role in increasing efficiency and providing greater visibility into operations. Often, the increase in inventory accuracy alone generates a

meaningful return on investment (ROI). Stores deploying pilot projects report that the introduction of RFID technology has increased sales up to 15%, reduced labor for inventory-taking up to hundreds of hours per month, and resulted in 98-99% inventory accuracy rates. With inventory accuracy reportedly hovering around only 65-75% using conventional methods, the case for RFID is clearly quite strong.

Add in shrinkage control and it becomes even more compelling. *RFID Monthly* reports that global theft costs retailers \$105 billion a year (plus an estimated \$25 billion spent annually to combat the problem). Roughly 40% is customer theft, with the remaining 60% distributed amongst employee theft, vendor fraud, and human error. Going back to the water pipe analogy, how can one fix such a problem without knowing exactly where the system leaks? RFID technology provides that visibility.

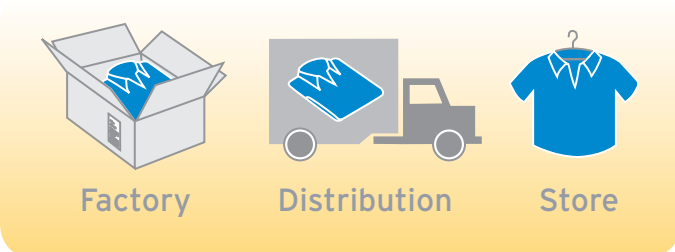


Out of stock situations present another profit leak. *Supply Chain Digest* reports the retail out-of-stock rate at 17.8%. Close to 18 customers out of every 100 leave unsatisfied, with stores losing immeasurable opportunities. For today's busy consumers, repeatedly experiencing an out-of-stock situation will likely persuade them to shop elsewhere, resulting in even greater losses. Thus the ability to track items throughout the supply chain and maintain accurate inventories reaches far beyond the tangibles of store efficiency and productivity. It also has the potential to enhance customer satisfaction and improve retention and loyalty rates. These intangible benefits will also contribute to the bottom line.

How do stores implement RFID? To date, most apparel store RFID pilots have been closed loop systems (self-contained and customized to a particular retailer—see Impinj's Metro Group Galeria Kaufhof case study for an example). These pilots reveal the benefits that RFID could bring to open systems as well. For a summary, see the table on the last page, which lists distinct RFID advantages gained at each point. If one were to summarize these RFID advantages in a few words, it would be efficient, low-cost, item-level visibility. With little labor involved, operations teams easily trace items from their source of origin to their place of exit—and not just trace. Specific information about each item is also readily accessible. To illustrate, let's follow an RFID-tagged blue shirt in size medium from the factory.

## Following the Blue Shirt

Our blue shirt will either be pushed to the market (in hopes of a sale), or pulled through the market (because of high demand). But the path it travels could be treacherous, because of human errors or theft. At many points in the chain, it could go missing.



### At the Factory

We know it is a blue shirt at the factory, because RFID enables item-level tagging. Data encoded on the tag and linked to a database identifies the type of shirt, size, color,

### Benefits to Consumers and Industry

RFID technology has the capability to revolutionize the way companies do business. RFID tag benefits include:

- > Ability to identify the source of products—enabling intelligent recall of defective or dangerous items.
- > Easy monitoring of high-value items
- > Prevention of counterfeit products in the supply chain
- > A better shopping experience for consumers with fewer out-of-stocks and easier returns
- > Greater visibility into the supply chain, which means a more efficient distribution channel and a reduced cost of doing business
- > Less business revenue lost to theft or inaccurate accounting of goods

material, or any other information the retailer finds useful. RFID readers located at various points along the factory floor track its progress. With RFID technology, factory operators have access to data that indicates if the shirt fulfilled an order from store A, store B, or if it exited with a less-than-honest employee.

### Through the Distribution Center

RFID-enabled distribution centers mark the blue shirt's entrance into the facility, track where it travels, and record its ultimate exit onto a truck bound for a particular destination. RFID provides visibility at the item-level just not practical with more labor-intensive methods. Without opening any packaging, workers at the distribution center verify the blue shirt's presence within a particular carton. They also have the ability to track when it left the exit portal if truck loading order (for multi-store distribution) is important. This visibility into the movement of goods at the item-level illuminates transit errors and theft, while improving order fulfillment accuracy. Not only do operators know that the blue shirt entered the wrong truck (and when), but they also know in which truck it should be loaded. Problem areas illuminated by this increased visibility could result in process improvements and upgrades.

## Into Receiving, Entering the Stockroom, Passing through the Transition Point

Similar to the distribution center, RFID-enabled stores verify the arrival of the blue shirt at receiving down to the carton containing it. System software cross-checks its presence in the delivered goods against the advance shipping notice, and enters the blue shirt into the stockroom inventory. The key here is that our blue shirt, along with every other item coming through the receiving portal, *individually* enters the inventory. Without RFID, most retailers have to assume accuracy of the entire order via spot checks or just blind faith.

When store personnel are certain that the stockroom holds five blue shirts in size medium, their ability to satisfy customer needs and easily maintain inventory greatly increases. If the transition point between the stockroom and the sales floor is also RFID-enabled, particularly with direction-detecting RFID, the store owners can identify whether or not the blue shirt immediately moved onto the sales or languished in the stockroom, forcing excess inventory, a mismatched floor, and an eventual markdown—all weakening margins.

## Onto the Sales Floor

It's on the sales floor where RFID really shines, and where the possibility for data mining explodes. With RFID tagging, store clerks know exactly where the blue shirt lives on the sales floor. If fitting rooms are also RFID-enabled, employees can track when the blue shirt enters a fitting room, and whether or not it proceeds to the point of sale, or finds its way back to the sales floor. If data indicates that our blue shirt continually returns to the sales floor, that information might indicate a problem with the design or style.

*If one were to summarize these RFID advantages in a few words, it would be efficient, low-cost, item-level visibility.*

RFID-enabled monitors in the fitting rooms or kiosks on the sales floor also create up-selling opportunities and improve the customer experience. Think of your fashion-challenged friends. Wouldn't they love to have someone tell them what pants or accessories would go well with that blue shirt? Even the best sales associates cannot be in five dressing rooms at once, and this extra support maximizes sales opportunities even when a sales person cannot be available.

## Better than a Barcode

The RFID tag has numerous advantages over the barcode, including:

- RFID tags do not require manual line-of-sight reading
- Greater depth of serialization—RFID can uniquely identify each individual item, rather than simply the style number
- Many RFID tags may be read simultaneously
- Information contained in RFID tags may be updated in the field
- Unique serial numbers make product authentication possible

RFID-enabled item-level visibility means that sales floor personnel can quickly restock popular items, lessening customer frustration and improving sales. If our blue shirt flies off the shelves, that fact would be readily apparent to the sales personnel, who could quickly bubble the information up to the store buyer, who could quickly act on an order before her counterpart at a competitor. This knowledge not only makes the sales floor more appealing for customers, but allows a major retailer to be more nimble, acting with the insight that a small boutique owner might have, but in a 200-store operation. Planners can easily allocate stock and reorders to the right stores once they have gained visibility into where goods sell best. The factories, in turn, can reallocate their resources to meet blue shirt demand.

## Point of Sale and Store Exits

RFID-enabled point of sale accelerates checkout and facilitates returns for the customer, while providing protection against fraud for the retailer. Instead of individually scanning each item at checkout, clerks process a stack of items simultaneously—no line of sight necessary (as with barcodes). The same tag that makes checkout easy facilitates returns. Individualized information on an RFID-enabled tag can be store and item specific. Detailed product information enabled by RFID discourages internal theft, because managers have the data to account for every item. If the blue shirts were suddenly found to contain hazardous materials, exact visibility into the travel of the blue shirt supports faster and more effective recall management.

LEAK POINT	RFID SOLUTION ADVANTAGE
Factory	<ul style="list-style-type: none"> <li>&gt; Improves order accuracy</li> <li>&gt; Reduces shrinkage</li> <li>&gt; Deters counterfeiters</li> <li>&gt; Speeds order fulfillment</li> <li>&gt; Improves efficient resource utilization</li> </ul>
Distribution Center	<ul style="list-style-type: none"> <li>&gt; Reduces labor cost</li> <li>&gt; Reduces shrinkage</li> <li>&gt; Improves order accuracy</li> <li>&gt; Provides visibility into transit errors</li> </ul>
Receiving	<ul style="list-style-type: none"> <li>&gt; Verifies order accuracy</li> <li>&gt; Reduces labor costs</li> <li>&gt; Provides visibility into transit errors</li> </ul>
Stockroom	<ul style="list-style-type: none"> <li>&gt; Supports real-time inventory</li> <li>&gt; Reduces shrinkage</li> <li>&gt; Reduces overall inventory needs</li> </ul>
Transition Point	<ul style="list-style-type: none"> <li>&gt; Improves stock location visibility</li> <li>&gt; Allows tracking of goods between sales floor and back store</li> </ul>
Sales Floor	<ul style="list-style-type: none"> <li>&gt; Supports real-time inventory</li> <li>&gt; Reduces overall inventory needs</li> <li>&gt; Improves stock location visibility</li> <li>&gt; Reduces labor costs</li> <li>&gt; Improves restocking efficiency</li> <li>&gt; Supports up-selling opportunities</li> <li>&gt; Provides wealth of shopper pattern data</li> <li>&gt; Increases sales through inventory availability</li> </ul>
Fitting Room	<ul style="list-style-type: none"> <li>&gt; Supports up-selling opportunities</li> <li>&gt; Reduces shrinkage</li> <li>&gt; Improves customer experience</li> </ul>
Point of Sale	<ul style="list-style-type: none"> <li>&gt; Speeds checkout</li> <li>&gt; Improves customer experience upon returns</li> <li>&gt; Protects store against fraudulent returns</li> </ul>
Front Door	<ul style="list-style-type: none"> <li>&gt; Reduces shrinkage</li> <li>&gt; Improves security</li> </ul>

Finally, RFID-enabled exits provide exact details about unpaid items leaving the store (the blue shirt in size medium), rather than just the event that “something” exited the store illegally.

## RFID Plugs the Leaks

RFID technology enables item-level visibility and supply chain efficiency not previously possible. Along with that increased visibility comes the potential to plug the profit leaks in supply chain and store operations. An investment in RFID will likely bring a ROI in inventory accuracy and efficiency alone. But the longer term potential for RFID, in terms of customer experience and overall satisfaction, cannot be underestimated or overstated.

## Powered by Impinj



There is RFID, and then there is Impinj RFID. Impinj assures the integrity of the RFID system—our products perform accurately and reliably, with built-in capability to adapt to changing and challenging environments. Impinj has developed a reputation for the best technology in the industry, created by innovators who have

consistently anticipated, met, and overcome challenges deemed by others as too difficult, while setting new industry standards for quality and reliability. Impinj product integrity has been proved in the lab, in the field, and in the ROI of numerous benchmarks, pilots, and deployments. When it comes to installing RFID into your application, ask for it to be *Powered by Impinj*.

