

Intelligent
Inventory
Solutions

SML



**Winning in Retail With RFID:
Today and Tomorrow**

Winning in Retail With RFID: Today and Tomorrow

Arguably, the roots of RFID technology can be traced back to the invention of radar when radio technology was first used to passively identify objects. But while this basic capability was useful at the time, key details were not available about those objects. Without transponders attached to planes, for example, there was no way to know whose planes were flying overhead.

Fast-forward to today and we can see exactly how far radio identification technology has advanced. A variety of industries have embraced RFID technology due to its substantial benefits over bar code systems for tracking and identifying inventory. And yet, as it was in the early days, the true value of RFID depends on how the technology is deployed.

Today, RFID solutions have seen widespread acceptance in retail inventory management. Perhaps as an apparel retailer or brand owner, you have researched RFID and possibly come across industry terms such as omni-channel, smart dressing rooms, cycle counting, continuous visibility and inventory accuracy. Most likely, these terms have generated even more questions:

- Which of these are real benefits today, and which are on the horizon?
- What are the use cases that derive the most business value from RFID?
- Where should you start building your business case?
- What solutions will best position your company to leverage an investment in RFID both today and tomorrow?

And what about the future? Industry experts tout a multitude of wondrous future applications and benefits, but what will be the real business value of RFID in the near future, and how do you chart a course from today to tomorrow?

RFID Program That Adds Value, Not Complexity

To understand how to derive the most business benefit from RFID, it's important to look at the current value proposition, as well as how different retailers and brand owners have adopted the technology to maximize their return on investment (ROI).

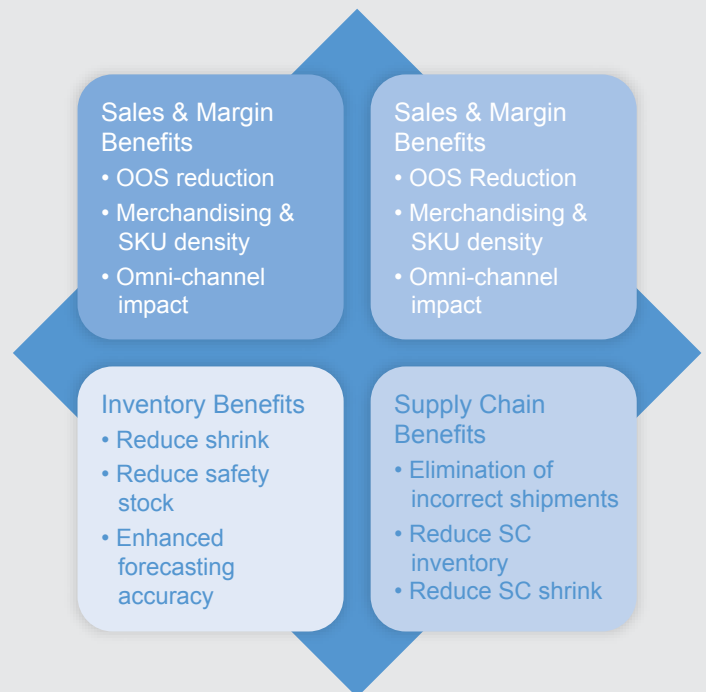
The major drivers of business value in RFID for retail include benefits in sales and margin, reduced costs, improved inventory management, and supply chain efficiency.

Sales benefits are most often recognized due to the enhanced replenishment RFID enables, directly impacting out-of-stocks and freeing up valuable space that can be utilized to implement different in-store merchandising strategies. While conducting audits to get better visibility on inventory is an expensive (and therefore rare) proposition in retail, RFID makes it easy for just one or two workers to accurately count every single item in well under two hours, driving significant reductions in labor and other associated costs.

More accurate inventory leads to better forecasting and reduces the need to carry excessive safety stock, reducing inventory throughout the supply chain. Furthermore, orders are received, processed and shipped through the distribution center and to retail stores with higher accuracy, eliminating mis-shipments.

According to a recent GS1 US Usage Survey, more than 57 percent of retailers are implementing or investigating RFID. Although some global brands are using RFID for more advanced applications, the main retail business driver today is still inventory management for stock replenishment.

In fact, some retailers have yet to fully capture the benefits of improved sales and reduced shrink made possible by RFID for item-level retail inventory management.



Trial and Error

In an examination of why adoption is not even more widespread in retail, there are several reasons that early trial deployments of RFID may have failed or underperformed. The most common cause of this is a poor understanding of what the best use cases are for maximizing return on investment from RFID.

One important consideration is the volume of items being tagged. For example, one department store retailer deployed a full RFID solution chain-wide, but did not tag a large enough proportion of items. As a result, they were unable to realize meaningful results and could not justify the business case to senior leaders.

Likewise, it's important to prioritize use cases to begin maximizing ROI as quickly as possible, adding additional solution applications only after higher priority use cases have been fully realized. In one case, a mid-size specialty apparel retailer failed to focus on inventory management, the primary use case for RFID in retail today, and tried to jump straight to advanced smart dressing room applications as part of Phase I implementation, needlessly complicating their deployment.

Most importantly, without sufficient internal support from senior leadership, even the best planned RFID deployment will be a non-starter. Therefore, it's important to partner with technology experts who can help you elevate decisions to the right organizational level by demonstrating how RFID can significantly impact everything from purchasing to finance and IT, thereby creating a solid business case tailored to your business.

Tailor Made

The right use case for you may vary by your type of retail business: department store, specialty apparel, jewelry, name brand or luxury. As it stands today, inventory management, shrink and auditing functions of RFID are the high impact drivers for retail value. This will change over time when these benefits are no longer a competitive advantage, and emerging use cases become more mainstream, such as brand authentication and customer experience.

Keys to a Value-Added RFID Program

Understand retailer-process fit...

- What percent of my items are tagged or taggable?
- How many items do I carry? What is my SKU mix?
- How much of my supply chain do I control?

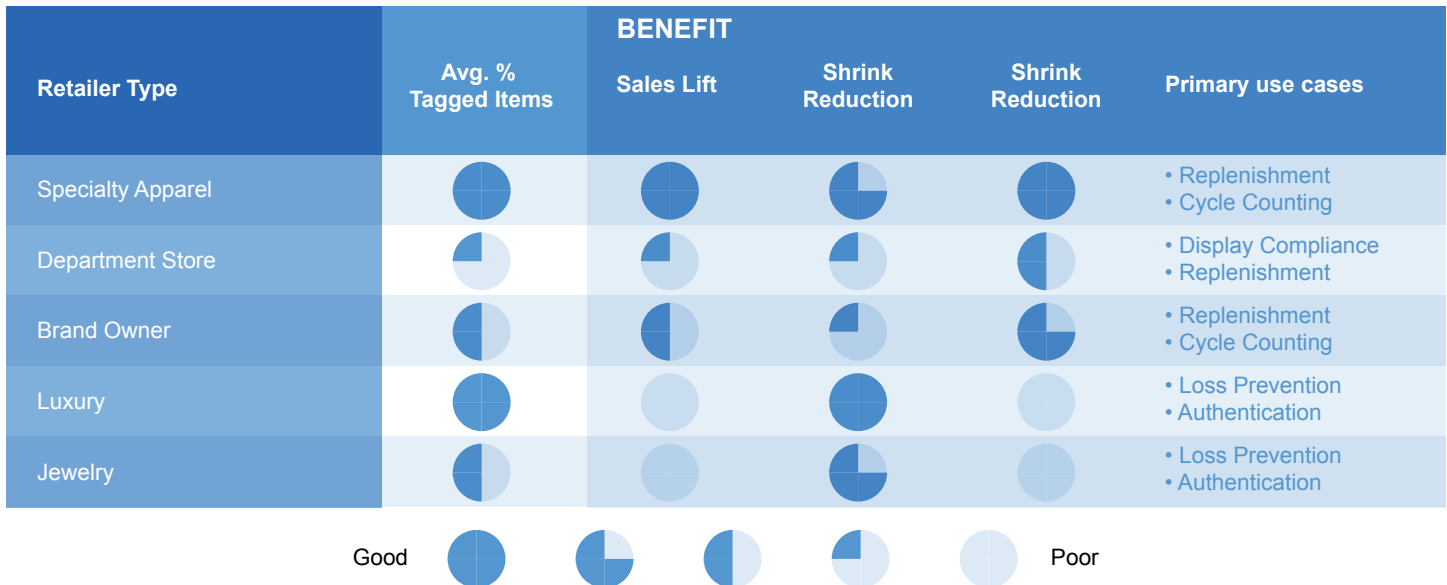
to ensure critical business focus...

- How do I optimize my solution for the highest-value use cases?
- Does my vision for RFID prioritize high-value use cases?
- How will use case prioritization evolve in the future?

with appropriate solution footprint.

- What minimal footprint is required to effectively achieve the desired business case?
- What future cases do I anticipate?
- Does my solution spend reflect the highest priority use cases?

How Are Different Retailers Employing RFID Today?



The benefits of RFID for inventory management in retail apparel are strongly related to the percentage of items that are tagged. Department store chains and brand owners in particular can see a significant improvement in ROI when they increase the number of items that are tagged. The use cases for luxury and jewelry are a bit different because they do not have the high volume and turnover of apparel; these retailers tend to focus more on loss protection or brand authentication.

The most successful retailers understand the relationship between scale of deployment and the amount of business value created. In other words, be sure to master the fundamentals of the key use cases before going for the big hardware rollouts that may or may not capture incremental value, depending on execution and solution design.

With today's use case, a retailer can capture 70 percent or more of the available value with two handheld RFID readers per store; additional hardware will increase costs but the rate of ROI may not keep pace. It's important to note, however, that as use cases evolve, additional hardware formats will become increasingly valuable and could supplant handheld-driven use cases in the future.

Deploy the RFID Solution for Today and Tomorrow

There are a number of potential RFID applications on the horizon that are exciting to retailers, and advanced technology exists to do these things. The challenge is in finding a solution that offers continuous visibility and high accuracy, yet is affordable enough to implement across hundreds or thousands of stores.

Given these three constraints, retailers today are often left having to pick two. For example, retailers can obtain an affordable and accurate solution like handheld readers, but must give up continuous visibility to do so. Alternatively, they could opt for an affordable, continuous-visibility solution, but would likely have to minimize hardware to achieve affordability, sacrificing accuracy. Lastly, retailers can opt for a highly accurate, continuous visibility solution — but the amount of hardware needed to achieve that degree of accuracy using today's technology is likely prohibitive relative to the cost, and ROI, of a handheld solution. However, as hardware accuracy and efficiency improves and costs continue to decline, these use cases should be financially viable in the not too distant future, so it's important to invest in today's solutions with an eye to serving the technology needs and use cases of tomorrow.

The Horizon for Future RFID Use Cases

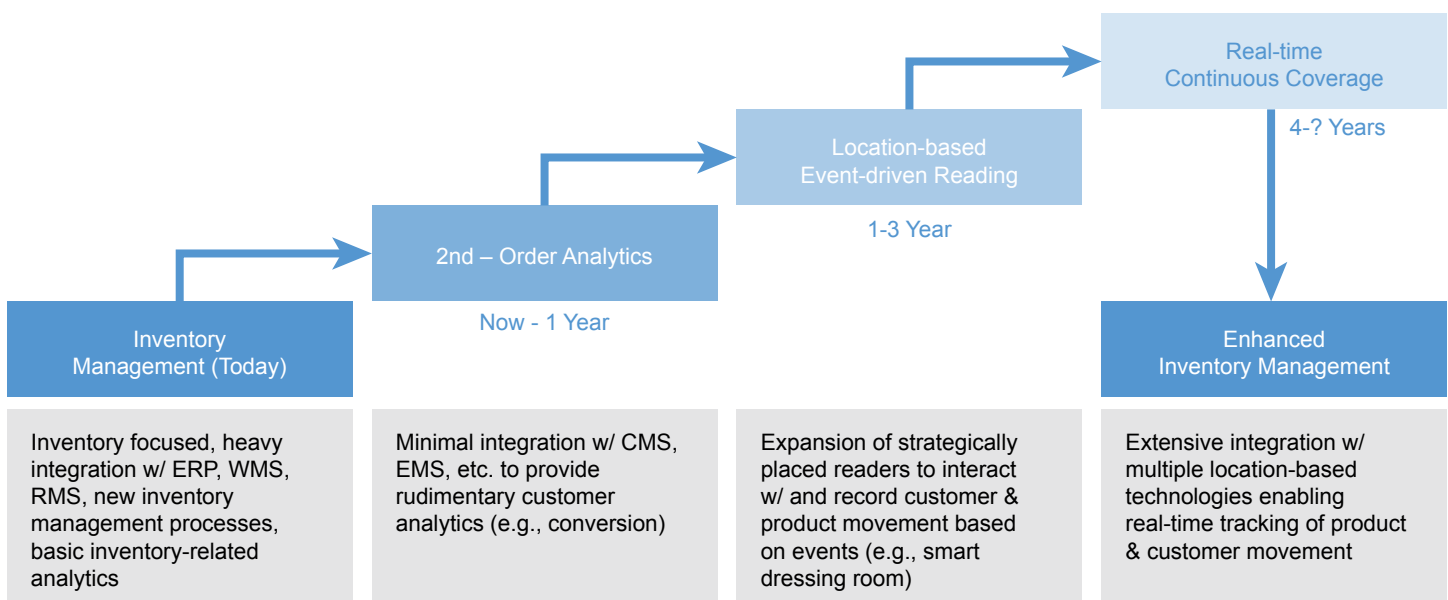
In general, RFID technology use cases for retail can be mapped out along an evolutionary path of increasingly more advanced applications.

In the first horizon, RFID is integrated into enterprise resource planning (ERP) systems for retail inventory management. Item-level inventory data and analytics provide insight into availability and location of items to reduce lost profits due to out-of-stocks and shrink.

The second horizon in the near future will see more integration with other systems to provide high-level business intelligence analytics, including rudimentary customer counting and conversion rates.

At the third horizon, expansion of systems to track customer and product movement will enable location-based interactions, such as smart dressing rooms.

Finally, enhanced business analytics will emerge from real-time continuous tracking and omni-channel communication with customers, via heavy integration with other location-based systems.



Mapping Out the Solution of Tomorrow

In the future, the key drivers of RFID business value in retail will be customer experience, real-time tracking in store, and analytics. This means that an incredible amount of transactions will need to be undertaken in a small window of time.

Will your solution of today be able to scale to handle that transaction load?

How will your organization leverage the nearly infinite possibilities that RFID will bring, affordably and without added complexity?

In order to lay a foundation for the most efficient and effective evolutionary path to tomorrow's use cases, retailers need to keep an eye on the rapidly changing future. This means deploying RFID solutions in a way that takes into consideration future needs, while fully capturing ROI today, by focusing on **scalability**, **integrability** and **extensibility**.

When choosing a solution, be sure it is scalable to accommodate future growth from new locations and business lines, and can handle the transaction rates required both today and in future growth scenarios.

The solution must be able to integrate with current IT infrastructure as well as additional systems beyond ERP, such as web analytics, and should give retailers the flexibility to easily incorporate additional systems in the future.

And because tomorrow may bring unforeseen types of hardware platforms and configurations, look for software solutions with a flexible application programming interface (API) for easy hardware integration with multiple fixed and handheld reader types.

The ideal RFID solution offers robust extensibility with an evolutionary path to easily capture new use cases, protecting your investment well into the future. This type of solution is integrated with today's client systems while being scalable, allowing for a flexible footprint as new hardware emerges.

A solution that does not scale, or is unable to interact with emerging technologies, will limit your flexibility and competitive positioning, and prevent your business from following a smooth and cost-effective roadmap to future use cases.

Bridge to the Future

As we've seen, the key to building a solution that maximizes value today and captures new use case value tomorrow is scalability, integrability and extensibility. Now the question remains: what does such a solution look like?

The ideal solution to support the future growth of your business is one that was engineered with scalability in mind, like the Clarity™ RFID solution, enabling expansion across numerous integration touch points.

As an essential retail tool of the future, RFID solutions being deployed now must support today's use cases as well as those of tomorrow, without creating disconnected data silos. These systems will need to be fully integrated with numerous enterprise systems.

Likewise, the solution of tomorrow must accommodate a variety of hardware configurations – fixed reading devices, handhelds, automated reading devices – to drive more complex use cases and enable maximum business value. This is why SML Intelligent Inventory Solutions developed Clarity around hardware-agnostic standards, offering market-leading functionality to support today's use cases, with scalability to support tomorrow's retail experience.

This combination of scalability and flexibility to accommodate future technology advances means that the Clarity RFID solution is highly extensible to future use cases with minimal disruption.

RFID has already changed the playing field for retail inventory management. Case studies demonstrate sales increases from 2-14 percent, reduction of out-of-stocks by 50 percent or more, inventory decreases greater than 10 percent, more than 50 percent reduction in shrink, elimination of labor-intensive audits, and enhanced omni-channel experiences.

Today difficult tradeoffs exist...

- Technology exists for virtually any use case, but it is not always practical
- Scaling of the RFID market will drive investment up and costs down
- Today, the leading use cases for ROI still relate to inventory management

...but future use cases are becoming viable...

- "2nd generation" solutions are quickly emerging; retailers waiting to capture today's benefits will be left behind
- RFID will move retailers even closer to the customer
- Inventory will only be enhanced as the cornerstone case for RFID

...creating these key considerations for RFID deployment.

- Better, cheaper hardware will drive innovation; requires scalable software
- More sophisticated uses necessitate reduced complexity of deployment
- With a rapidly evolving market, retailers must choose best-in-class software that can win with today's and tomorrow's priority use cases

Build Tomorrow's Solution Today: Clarity

- Highly scalable architecture, layered and decoupled to allow scaling points at each layer
- Web, applications and data layers are independently scalable
- Event driven application architecture
- Easily extended to support new features and functionality
- Domain driven design
- System designed from the ground up to enable serialized inventory visibility and operational control
- Latest technologies and practices
- Web API interfaces

The Proven Business Case for Clarity Item-Level RFID



- Increase sales: 2%-14%
- Cut out of stocks 50% or more



- Reduce inventory: > 10%
- Reduce safety stocks



- Slash shrink: > 50%
- Eliminate expensive audits



- Enhance omnichannel models
- Do ship-from-store

As RFID technology continues to advance, ubiquitous visibility, precise inventory accuracy and enhanced customer interactions are increasingly within reach. With the nearly unlimited potential of tomorrow's use cases, the business advantages for retail will only get bigger and brighter. The key to unlocking that future potential is to deploy flexible, scalable solutions that maximize and protect your return on investment, building for tomorrow, today.

About SML IIS

SML Intelligent Inventory Solutions (previously Xterprise) is a developer of market-leading integrated RFID solutions focused on apparel brand owners and specialty retailers. SML IIS's Clarity™ application platform is built around best-in-class features and functionalities combined with a deep understanding of the processes required to execute RFID inventory management in the retail supply chain. Clarity™ is used by the world's largest and finest retailers around the world, and supported by SML IIS's global team of highly trained support personnel. As a member of SML Group, SML IIS can deliver any part of a complete RFID solution, including software, hardware, RFID-enabled woven labels, printed fabric labels, EAS, trim, printed paper tags, and more. SML IIS also manages encoding, serialization and tag management.

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