

NEXT's Tech Nirvana

EAS is Alive and Evolving as Fashion Brand Takes Crime and Replenishment Data to "NEXT" Level

It was the satirist and writer Mark Twain who famously described the mistaken publication of his obituary with the words "*rumours of my death have been greatly exaggerated*".

The same sentiment could also be attached to the perennial discussion around electronic article surveillance (EAS), with its many retail critics arguing it is a one-trick pony and now a redundant noise that is simply ignored.

However, the last laugh is being had by an evolution of the very same technology and its long overdue collaboration with radio frequency identification (RFID).

Indeed, far from having had its day, this very same dismissed technology has recently provided what is probably its strongest argument to date that its own obituary has too been greatly exaggerated.

In fact, its evolution with RFID, the capabilities of which have been talked about for more than twenty years, has come to fruition in a game-changing and collaborative confluence of data-enabled best practice that has engaged and unified both the retail and law enforcement communities.

It has taken two decades, but leading fashion brand NEXT, working with UK-based TAG Company, has proven the case that retailers can now not only identify organised and opportunist criminals, but also exactly what they have stolen in order to build evidence packs for the police while at the same time rapidly replenishing the missing stock to reduce lost sales opportunities.

Also, as an agnostic technology, the solution deals solely in data intelligence and, as such, does not profile offenders and thus avoids the challenges of some pre-conceived notions of what organised criminals look like.

Boutique Collaboration

Before the implementation of the solution, TAG Company was not even a supplier to the retailer, but through the mutual collaborative relationship both businesses held with fellow RFID provider NEDAP, solution-seeking negotiations got underway.

NEXT had been experiencing some organised retail crime incidents at its flagship Rugby store in Elliott's Field retail park on the outskirts of the famous town that invented and gave its name to the international game. Now it wanted to not only intervene and investigate, but also get a world-class solution over the line.

Previously, NEXT had used traditional EAS hard tags for loss prevention in parallel with EAS antennas installed at each exit. However, a number of product lines were not protected, based either on low value, or the fact that they were too complex to tag.

Contained within each hard tag was an RFID label, used for inventory purposes to improve stock file accuracy and help drive product availability. RFID labels contain an electronic circuit that holds a unique 24-digit code (an EPC) that relate to an individual item and can be read at distances of up to 6m by RFID readers and, unlike barcodes, do not require line of sight.



Overhead Readers at NEXT's Rugby store

One of the challenges was the fact that the structure of NEXT's 24-digit RFID code is not standard.

Bespoke Pilot Programme

In late 2022, NEXT began a pilot at Elliott's Field store to evaluate transitioning from an in-store RFID hard tag programme to a source labelling process whereby the RFID labels would be encoded and applied at the point of item receipt during the delivery process.

However, although the cost benefits to this were high in removing the hard tag, it also meant removing the EAS protection from each item.

NEXT engaged with TAG Company, a leading provider of EAS and RFID technology to devise a solution that would enable the pilot stores to maintain their level of protection throughout the trial.

Any RFID-based exit system to replace the EAS antennas needed to be compatible with the existing NEXT RFID infrastructure and methodology.

No "off-the-shelf" solution was available, and therefore TAG Company, in close partnership with NEXT, developed a bespoke boutique solution with great potential for the future of product provision and protection.

TAG Company integrated the hardware from two leading European manufacturers, with each element connected to a cloud server to facilitate data transfer and remote support.

Overhead RFID readers were installed at each store exit and customer toilet entrance close to the concession Costa Coffee for detection of RFID labels in replacement of the traditional EAS antennas, and point-of-sale (POS) RFID readers were installed at each till point to replicate label deactivation.

The exit systems were configured to alert only on detection of a label programmed with the first 6-digits of the NEXT-specific EPC, moving in the direction of the exit. As a result, the system is immune from inbound tag pollution from adjacent stores—a common criticism of conventional EAS technology.

Bespoke software was written to enable the POS RFID readers to alter the first 6-digits of the EPC of each label once confirmed as sold at the POS. In doing so, NEXT could now distinguish between sold and unsold items.

Each evening, an automated mail was sent to NEXT containing a time-stamped list of all EPCs detected at the exits that had not been sold.

Unique

On a weekly basis, TAG Company transposed this list from RFID codes to NEXT's unique product codes (UPCs) to provide information on every individual item suspected of leaving the store without payment.

This time-stamped data was then reviewed by NEXT's loss prevention team against CCTV to match the time, the item(s), and person exiting—evidence to assist in any further police action.

For review by the senior LP team, a dashboard was specifically designed to display the data in a presentable format that can be more deeply analysed.

The details of these incidents of bulk theft—most frequently stolen items or product categories, and time of day certain events were more likely to occur, for example—are all clearly shown. The information contained in the LP dashboard was designed to help drive NEXT's resource planning and theft prevention strategies.

Conventional EAS systems will only provide one single alarm, irrespective of how many items have exited the store without purchase. TAG Company's system provides actionable data on how many, and which specific items have left at each alarm event.

This has been particularly well received by the police who are issued with data and CCTV footage which affords an earlier apprehension of criminals and a higher conviction rate in court due to the evidence provided being so accurate.

Through the project, which was shortlisted for the Fraud Awards' "In-Store Solution of the Year 2023", NEXT have been able to protect more items, identify bulk thefts, learn new theft related behaviour and spot trends.

Being able to identify specific item losses on a daily basis has also meant that inventory accuracy and the rate of replenishment has improved leading to a two per cent sales uplift.

Seeing What Is Unseen

For the NEXT team, one of the most pleasing aspects of the trial is that the technology allows what was previously "unseen" to be "seen".

Stock loss actually reduced year-on-year substantially, primarily due to shrinkage being identified daily/weekly as opposed to the previous approach of two annual stock takes per annum.

Adrian Sherry, head of security solutions at NEXT who was instrumental in setting up the trial at Elliott's Field said: "It has allowed the visible to become visible—it blew us away."

"This was a really interesting development for us as TAG Company were not even a supplier to NEXT. The relationship was built upon collaboration."

The trial links to CCTV footage which added the visual evidence to the packages for police to better prosecute.

"The police absolutely loved this aspect of the solution—with all the technology working together we were able to provide them with not only what was stolen in terms of the item, but its size, colour. It gave investigating officers chapter and verse in terms of the level of detail to bring prosecutions.



Adrian Sherry

"Then, from an inventory management point of view, it meant we knew exactly which products were missing so that we could replenish, meaning sales opportunities were not lost," he continued.

He also said that the exercise helped explode certain mythologies around who was stealing.

"We identified the fact that it was not necessarily those we assumed were stealing, but in at least one instance an octogenarian who had been regularly stealing these items. This was the benefit of the data—we would never have known otherwise."

Adrian said it also identified the de-tagging challenges in and around the café and toilet areas.

"The data was telling the store manager what had been de-tagged as a result of the readers being located above the toilet entrance next to the Costa Coffee areas," he said.

Jon Marchese, managing director and owner of TAG Company, a boutique technology solution provider, said: "What NEXT had before was slightly complex and clunky with the RFID tag integrated inside of the hard tag, but it did work for them. We needed to deliver on something that was easier to use and that everyone could understand."

TAG Company already had an allegiance with Dutch RFID giant NEDAP with whom NEXT had an existing relationship for its hardware solution and ceiling-mounted readers that can read soft tags applied at NEXT's warehouse. TAG Company then developed its own bespoke software that provided the RFID Gap analysis, the raw data of exactly what had been paid for, and what had not passed through the POS system, thus triggering an alert. This granular data of exact items then provided part of the police evidence pack for prosecution.



Jon Marchese

Actionable Dashboard Evidence

"A typical EAS system would only provide an alert that a tagged item has been detected, but this system is able to identify exactly how many and, more importantly, which products have left the building without being paid for, a game-changing solution that catalogues missing items and helps to reduce bulk theft by providing actionable evidence."

The business is now looking at reverting back to some of the hard tag solutions to reduce the application time while still retaining the integrity and intelligence of the new system.

RFID, has, it seems, come into its own with the marrying up of inventory controls and actionable security. Two decades on, it is a late-blooming technology whose time has arrived through a mixture of off-the-shelf and bespoke or boutique solutions that have at the same time provided a much-needed three-dimensional makeover and boost for the humble EAS system. This is no longer a white noise in the doorway that at best embarrasses or interrupts the legitimate customer journey or at worst something that everyone ignores. Now, when the alarm is triggered, there is cause to intervene.

Today's EAS could not be further from writing its own obituary. It has instead become a multi-coloured, dashboard-driven prompt or trigger for greater scrutiny and investigation. The alarm linked to this system is a collaborative call to arms for the retailer to retain or replenish their stock, and a reason for law enforcement to engage in order to reduce organised retail crime. It is the "NEXT" step towards a technological nirvana. It will encourage retailers to report and the police to respond—it is no longer a case of "never the Twain" shall meet. ■