

# How the Internet of Things can benefit your business

## A how-to guide for retailers



### FOREWORD

**T**his white paper offers vital insight into how the Internet of Things (IoT) can help retailers improve the overall shopping experience for their customers and staff. It reveals what technologies are powering IoT solutions and practical ways retailers can use these technologies in their stores.

SATO Global Solutions (SGS) and Intel worked with *Retail Week* on this white paper. Together, they explain how technologies, hardware and applications combine into complete solutions that businesses can use to turn data into meaningful and actionable insight.

SGS incorporates emerging technologies from Intel and its ecosystem for its IoT innovations.

Through global alliances with strategic partners such as Intel, SGS can deliver comprehensive turn-key solutions that include technologies, products and services tailored to unique industry needs.

A prime example is SGS's end-to-end digital store based on the Intel IoT Platform for Retail. This platform enables retailers to profit from innovative IoT tools ranging from cloud-based analytics to RFID and other sensor-driven solutions. Capitalising on a wide range of scalable, secure Intel technologies, SGS's digital store solution provides business insights designed to help improve operational efficiencies and increase sales.

**Intel and SATO Global Solutions**

The Internet of Things (IoT) is now part of common parlance for retailers, but much of the discussion still focuses on the implications for consumers, and how they interact with retailers and their surroundings.

There is huge potential to use IoT technology to improve the internal running of retail businesses. From combining customer data and improving in-store conversion rates, to reducing expenses by correcting inventory distortion, improving the overall experience for both staff and consumers. Clearly the possibilities are enormous.

While the customer-facing element is an extremely important aspect of the IoT's potential, until retail businesses use the technology to make their own operations more efficient, more customer-centric and consistent across



## IMPROVING INVENTORY ACCURACY AT LEVI STRAUSS

Levi Strauss & Co has been working with Intel in the US to explore a range of different ways to engage and inform its consumers, both online and in store, using IoT technology. Working in the company's concept stores in San Francisco, Intel and Levi's retail team implemented an inventory-tracking system that was intended to improve customer experience throughout the store.

The system is based on the new Intel Retail Sensor Platform, the first vertical end-to-end Intel IoT Platform solution that combines an Intel solution-based retail sensor, an Intel processor-based gateway, and the open-source Trusted Analytics Platform (TAP) to provide a simple, affordable way for retailers to gather actionable, near-real-time intelligence.

Using RFID tagging on all items in the store, stock is tracked and analysed using Intel technology, allowing Levi's store staff to see exactly what stock is on shelves, assess what is running low, and advise customers on the availability of different sizes and styles throughout the store. This RFID tagging is not only helping to improve inventory management, but also enhances the in-store customer experience.

"When a consumer comes into our stores and they find what they want in terms of the product, they find it on the shelf, in their size and it's available. We're also looking to empower our stylists in stores with the right tools to deliver superior service to our consumer," says Noah Treshnell, LS&Co's senior vice-president of retail and global retail capabilities.

channels, consumer experience will still be lacking. Implementing IoT systems internally was consistently mentioned at the 2016 National Retail Federation (NRF) technology show.

"With the internet of things there are also greater opportunities for efficiencies for retailers and managing stores much more effectively – that's interesting. The clever bit for us is [for the smart tech] to tell you something useful," said John Lewis IT director Paul Coby, while being interviewed by *Retail Week* at NRF.

And, as Coby explained, the real value of the IoT comes in the form of the data that connected devices can collect.

Research agency Forrester defines the IoT as "technologies that collect and transfer information on the condition of physical assets or people". The data collected can be used to improve the internal running of retail businesses, increase stock visibility, upsell to consumers in store and drive overall business growth.

## BACK TO BASICS

But how can the IoT help you run a better retail business? First, companies need the basics in place, which is the focus for many retailers in 2016.

The IoT depends on the availability of two elements – connectivity and computing power. The growth of cloud computing over the past two decades, and the more recent growth in our ability to connect almost anything to the internet, are both driving developments in this area.

Empowering store associates, getting a 360-degree view of the customer, blending the digital and the physical, and wowing consumers with in-store technology, all rely on a basic level of connectedness throughout retail store premises and having integrated systems that sync harmoniously with one another.

Before retailers can hope to gain any benefits from IoT technology, the basics must be firmly in place, which is why investment in connectedness is a high priority for retailers in 2016.

Once the connectivity and computing power are in place, then businesses can also address



## Holland & Barrett offers stores a share of web sales to encourage an omnichannel attitude

mindset. At Holland & Barrett, in an acknowledgement of the changing role of the store, online services and brand offering, the company changed the way it incentivises store associates to encourage a new way of thinking.

"Some store managers have 30 years' experience so it was a shift in mindset to get them to understand that mobile and online are just as important," says Holland & Barrett director of projects Ray Aldis.

"Store teams have commission on everything they sell. They get 1% of sales pro rata. To encourage an omnichannel attitude, we introduced a strategy of giving store associates a share of web sales for their store if the customer shops online. They then get that for the lifetime duration of that customer," he says.

But to be able to do this, businesses need the data available to make those calculations, much of which can be collected and collated through IoT technology.

## THE TECHNOLOGY


What technology is powering these developments? Much of the technology that brings to life the IoT is not new. Instead, it is how this technology is applied and understood, and then how the data from these connected devices is analysed, that has the power to be transformative.

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Customers in store at River Island can scan products using the retailer's app to check stock availability

## PRACTICAL WAYS RETAILERS CAN USE IOT TECHNOLOGY IN STORE



Use smart changing rooms to improve conversion rates by **OFFERING CUSTOMERS ALTERNATIVE** sizes or styles based on the garments they have chosen

Give customers **special offers** in store through a **mobile app** to upsell



**CLEARER STOCK VISIBILITY** across the store estate

**EMPOWER STORE staff** to make **better decisions** and **ADVISE CUSTOMERS** more effectively based on **REAL-TIME DATA ANALYTICS**



Many retailers will already be familiar with IoT technology that is currently in use. RFID tagging and GPS location technologies are just two examples of where a change in application and connecting the technologies is game-changing.

RFID tagging has been quietly revolutionising warehousing in retail for several years now, while GPS location tagging that communicates directly with consumers about store and product locations is raising customer expectations all the time.

While some retailers are already using automation in their warehouses – such as automated picking systems, pallet retrieval and temperature

control – others are using sensors that tell them when a shelf needs restocking, while some will be using tracking devices for deliveries and drivers.

In recent years, these technological developments have moved from proof-of-concept trials to become practical and vital to retailers' operations.

### IoT IN STORE

Retailers are seeing a step-change in the role of the store in a customer's journey, and need to react accordingly. "All of a sudden the digital journey is going into the store," says fashion retailer River Island's chief information officer Doug Gardner.

**"All of a sudden the digital journey is going into the store. People are interacting with the store in a very different way"**

DOUG GARDNER, RIVER ISLAND

A River Island app for smartphones is now available to customers.

"People are interacting with the store in a very different way. Customers are able to scan products using the River Island app to see their availability. One of the biggest changes is arming our staff with the technology to deal with this situation. We rolled out handheld and tablet devices to optimise sales and service and to build store associates' confidence," he says.

Better stock visibility and access to customer data gathered through using IoT technology will allow staff to help customers more effectively find the stock they need and provide a more personalised service.

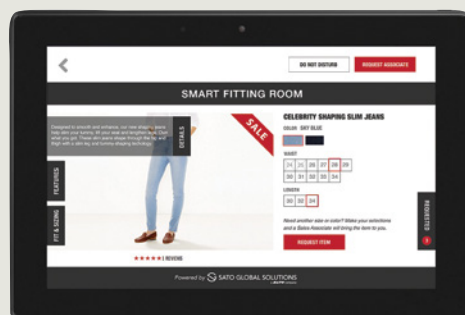
In addition, sensor technology that can track shoppers' movements in store can improve layouts and give retailers a detailed insight into the role stores have for consumers in purchasing. This in turn allows retailers to put the customer back at the heart of the store experience.

"We are starting to design systems for store staff to use in the same way we design systems we use for customers," says Gardner. Other retailers are also making efforts to seamlessly blend the

## SMART CHANGING ROOMS

Customers' in-store journeys have many stages, one of which is the changing room for fashion retailers. But this is an area where retailers lose the ability to influence consumers. SATO Global Solutions' (SGS) Smart Fitting Room application is one way for retailers to stay engaged with shoppers.

The app not only collects customer data for the retailer, it can also send personalised offers to consumers while they are in a changing room, collect data that assists with more efficient and effective stocking, purchasing, product placement and marketing campaigns, connect with sales associates in real time to change and bring new items for shoppers, and monitors stock while the customer is in the changing room.





digital and the physical; LK Bennett is one of several fashion brands to offer virtual fitting rooms, while some Karl Lagerfeld stores include fitting rooms with photo booths where shoppers can apply filters to their images and share them on social media.

There is an opportunity for savvy, forward-looking retailers to take advantage of the IoT and offer consumers who enjoy coming to stores an extra wow factor through using in-store technology.

But the IoT is about more than wowing customers, although this is an important element. Inventory visibility, upselling, personalised offers directly to consumers, and empowering staff with better data are all results of correctly implemented IoT technology.

Premium department store House of Fraser is trialling beacon technology that sends offers to shoppers' phones as they pass, while technology company Philips has developed a lighting navigation system that can relay location-based information to customers via a smartphone app. When these are coupled with contactless payment technology, it makes the customer's path to purchase very simple.

There are several systems and platforms that allow retailers to collect and analyse data that can offer a similar level of insight into bricks-and-mortar shoppers as online customers. These use a range of technology and data including sales data, dwell time, heat mapping, wi-fi tracking, sensor technology and demographic data, which is all then analysed to form a view of that customer and allows retailers to offer more personalised services based on in-store activity.

The ultimate technology-enabled store could take several different forms, depending on whether a retailer aims to create a convenient experience, a theatrical and engaging one, or a bit of both, so the opportunity for retailers is huge.

## CONSISTENT EXPERIENCE

Although it is possible to collect the same level of data on in-store consumers as online consumers, the real power of this data comes when the two are combined. This is much more in line with how consumers think, and something many retailers are attempting to change within their own organisations. "The really important thing is to understand it's not about online and stores, you

## "It's not about online and stores, you have to think about the business as an integrated whole"

PAUL COBY, JOHN LEWIS

have to think of the business as an integrated whole," says Coby.

"It's about engineering your whole business to provide customers with how they want to shop. At John Lewis they expect it to be seamless. You have to join up all those channels. You have to get yourself out of that siloed mentality."

Consumers consider every touchpoint they have with a retailer as one overall brand experience and so retailers need to do the same, but this is no small feat.

"Customers shop the brand – they don't consciously think they are moving through the channels," explains Holland & Barrett's Aldis.

Keeping up with the pace of change that is expected from consumers is just one of the challenges retailers are facing in this area.

"The way we interact with customers is changing at a dramatic pace, creating lots of challenges within our organisation," says Gardner.

"Fifty per cent of our customers use the website as a browsing tool before making a purchase, and we have more than 3 million visitors per week. Mobile transactions account for half of our online sales. We operate eight dedicated channels, five currencies and deliveries to more than 120 coun-

tries. Customers are changing and wanting to have a digital relationship with the brand. People are used to having things smooth and crisp across different devices," he says.

IoT technology can bring all of this data together in one place to create a unified commerce view – this is a step beyond multichannel; unified commerce includes all of the functions required to serve the customer where, when and how they desire.

## CREATING BUSINESS GROWTH

The value of IoT technology is vast. Retailers can use it to improve their speed and responsiveness when reacting to changing store conditions and to gain a better understanding of how stores operate.

By capturing data from retail-edge devices, retailers have almost boundless possibilities – tracking stock more accurately and saving on operational costs, achieving better business insights and responding more quickly to market conditions.

In order to compete for customers, retailers need to start delivering total retail solutions to their shoppers and staff. They will only do this through effectively using IoT that truly empowers store staff, puts customers at the centre of the process and enables greater business efficiencies.

As consumer expectations rise, using IoT technology to gain better insights into all customers, both in store and online, will become essential for retailers looking to better differentiate their operations and services, and improve their competitive advantage.

## KEY POINTS

- The IoT offers enormous potential to improve retail businesses
- Retailers are seeing a significant change in the role of the store in a customer's journey
- Achieving a 360-degree view of the customer, blending the digital and the physical, wowing consumers with in-store technology, and empowering store associates all relies on a basic level of connectedness and integrated systems that sync harmoniously with one another
- Retailers need to create a consistent brand experience

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