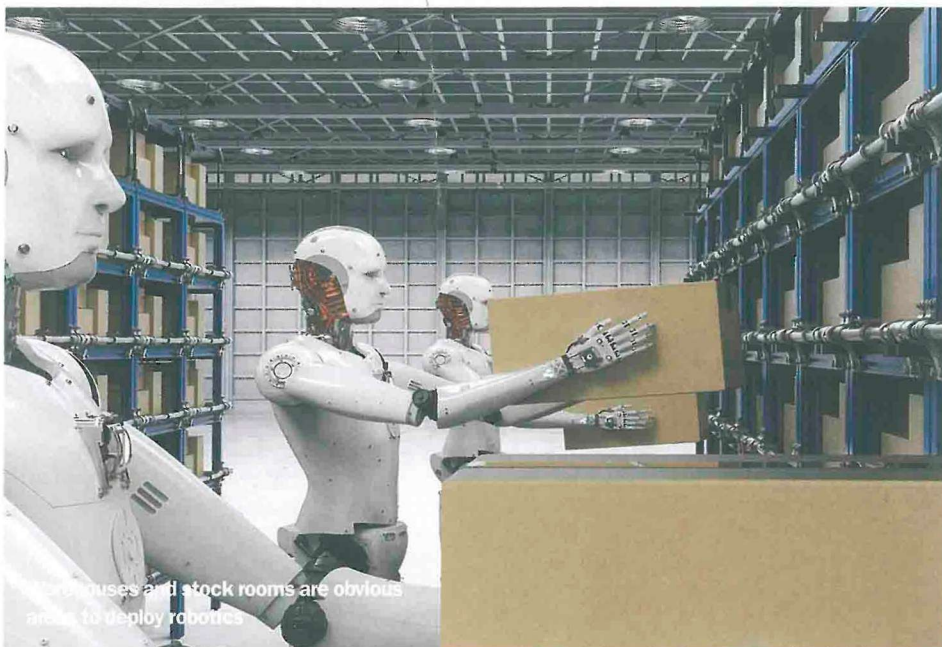




# Can robots help your business?

In this extract from our Retail Week's special report, **Grace Bowden** looks at the impact of robotics on stores and what physical retailers should be doing to prepare for the next wave of automation



Stockrooms and stock rooms are obvious areas to deploy robotics

**T**he pressure on the UK retail industry has been well documented as national living wage hikes combine with business rates to make running a store more costly than ever.

In the past two years, redundancy rounds across retailers' store staff have become commonplace, with customer-facing roles comprising the bulk of the 50,000 job cuts made across the sector so far this year.

Sainsbury's, Tesco, Asda and Wilko are just a handful of the businesses to have axed shopfloor staff over the past 12 months.

Some retailers have turned to robotics and automation as a way to maintain the level of in-store service with fewer staff on the shop floor.

US grocery giant Walmart is one retailer that has deployed in-store robots in 50 of its shops.

These robots, developed by San Francisco-based firm Bossa Nova, are not the hand-shaking, cartoon-like robots, such as SoftBank's Pepper, which are more fodder for in-store selfies; instead they supercharge productivity.

The Bossa Nova robots are not designed for shopper – or employee – interaction. Instead, the machines scan supermarket shelves to pick up on a host of issues ranging from incorrect pricing of products, stock shortages and even the distance between products.

One UK grocery executive tells Retail Week there are "about 30 different reasons why a colleague might visit a shelf edge" in a supermarket store, and this technology offered "all the back-end benefits of Amazon Go's

technology, which are just as impactful on the overall customer experience".

"We're seeing the technology emerge at a reasonable price point where we could start thinking about actually automating physical tasks in-store," he adds.

## Return on investment

As technology investments go, robotic shelf scanners are relatively lightweight because they do not involve infrastructural changes to the store.

Bossa Nova chief technology officer Sarjoun Skaff tells Retail Week: "This is an investment that allows [retailers] to restock a shelf faster, which leads to an increase in sales, which offers a very quick return on investment.

"The role of technology in retail is to pinpoint these centres of inefficiency and then inject data or automation to improve those efficiencies.

"Everybody wins – the employees get to do their job better and spend their time selling, the

store is more efficient so there's less inventory in the back room and the shopper finds what they're looking for faster."

Walmart chief technology officer Jeremy King says Bossa Nova's robots are 50% more productive than their human store associates and scan shelves up to three times faster, with a significantly higher level of accuracy.

Furthermore, the level of data collected by these robots could have tangible impacts on a store manager's wider strategy.

One grocery executive says while some processes such as checking for out-of-stock products are currently carried out once a day, others, such as checking a shelf is planogram-compliant, only take place every few months.

"Once you start getting that data two or three times a day it could be a real game changer," says Cambridge Consultants industrial and energy lead Bruce Ackman.

He explains that getting accurate information on the stock on a retailer's shelves could influence how a store manager lays out products, staffs the store for peak periods and re-orders products, as well as increasing the relevance of promotional offers.

**Shelf-scanning and price-checking may drive efficiencies; however, robotics could transform the customer's shopping experience**

## Doing the shopping for customers

Shelf-scanning and price-checking may drive efficiencies; however, robotics could transform the customer's shopping experience.

Javelin operations director Will Treasure says robotics could do the customers' shopping in-store.

He explains that shoppers could enter a list of items into a machine upon entering the store

# SOLVE

## Are customer service robots just a gimmick?

Customer service robots, such as Softbank's Pepper, have proliferated in recent years. However, many are not yet convinced of their efficacy, with one retail executive dismissing them as "broadly useless".

These robots have been developed by a host of firms including Orchard Hardware, Softbank and Unity Robotics, and boast skills ranging from understanding and answering customer queries in multiple languages to guiding them to items in-store – all while collecting data.

US homewares retailer Lowe's rolled out a customer service and shelf-scanning robot in 2016 called the LoweBot.

Cambridge Consultants industry and energy commercial lead Bruce Ackman thinks the technology has intriguing implications for retail service more widely.

"In big-box stores there is a dearth of staff – I have to go looking for sales staff to ask a question to. What the LoweBot does is fill a function. It's a bit of a novelty right now but every interaction with a consumer and transaction is captured," he says.

"The value and game changer that these kinds of systems offer is in the rich data they will collect, which will then be imported into an analytics engine to constantly improve customer interactions with the LoweBot.

"It's not the function of the robot itself but how the robot interface and data collection allows retailers to improve customer experience, inventory management and the efficiency of store operations."

It is worth noting that since the LoweBot was originally rolled out, its use has pivoted away from customer service to shelf-scanning exclusively – indicating that to get the most benefit from a robot, it is probably best not to ask it to multitask too much.

German electricals chain MediaMarktSaturn has deployed a host of robots across its stores, including Pepper and Unity Robotics' Paul.

Chief innovation officer Martin Wild stresses that

the technology fits perfectly into the firm's wider strategy.

"In our view, it's much more than just a gimmick", he says.

"Saturn's brand promise is 'live and experience technology' – and our robot assistants are helping us put it into action. Many of our customers see a robot or at least interact with one for the very first time in our stores. It's a great experience which they associate with the brand. Furthermore, the robots will learn quickly and therefore will help our customers on many more occasions in the future."

Wild adds that, as well as being a draw for first-time customers to visit MediaMarktSaturn (some customers are said to have travelled hundreds of miles to its stores just to see the robot), the machines are interacted with regularly by returning customers.

"This positive response shows we're on the right track with our strategy regarding new technologies: test quickly, learn quickly and adapt even quicker," he says.

Wild says the retailer has encountered challenges such as speech recognition in a noisy environment but it is constantly improving the robots.

### Voice of doubt

One of the key uses of customer service robots is to take shoppers directly to the product they are looking for – which is an increasingly common source of frustration given shopfloor job cuts.

However, Bossa Nova chief technology officer Sarjoun Skaff is unconvinced this technology has tangible benefits. "I've not seen any compelling reason why that automated shopping assistant makes sense," he says.

"Do you really need a robot walking ahead of you [to locate a product]? It reduces the friction of downloading an app, but on the other hand the interaction is still kind of broken because the maturity of the technology is not sufficient to keep people engaged."



– the household staples, or "the most boring part of the grocery shop" – to be fulfilled automatically while they're shopping for fresh products.

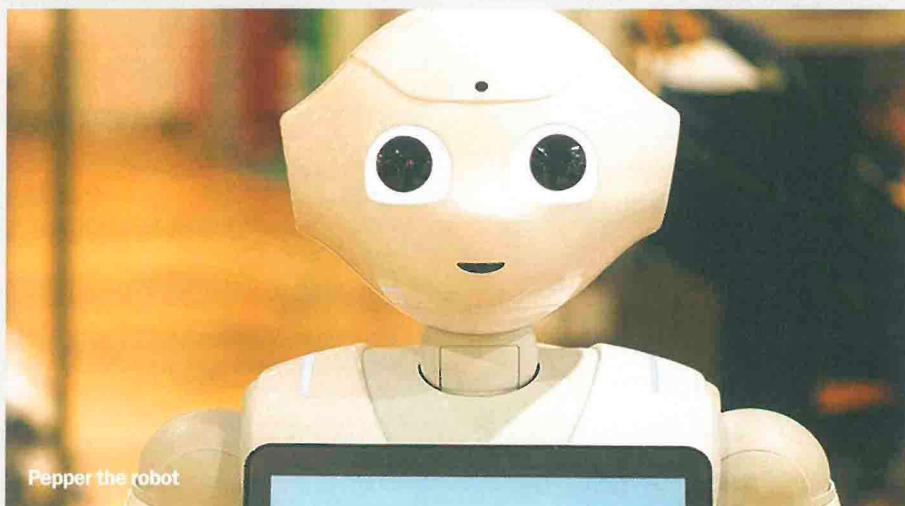
However, Treasure says supermarkets would need to be reconfigured into two sections – ambient, uniform-sized products, and fresh – with the ambient produce auto-replenished at the back end of the store.

Treasure stresses that this model would require grocers to "rethink the whole role of the store" but believes it has "the potential to be as impactful as self-checkout has been on the grocery shopping experience".

Amazon Go – the retail giant's checkout-free shop – shows that if a store is purpose built to be automated, it can dramatically improve the convenience of a shopping trip for customers.

But retailers will need to consider whether the cost associated with retro-fitting their existing store estate to add a greater level of automation to the shopping journey is a worthwhile investment.

One senior grocery executive warns that the costs associated with retro-fitting stores would be steep. "Shelves and layout of goods have been done either with the idea of how people working there will do those tasks or with what makes sense for the customer in mind. The way to make it most efficient for automation



Pepper the robot

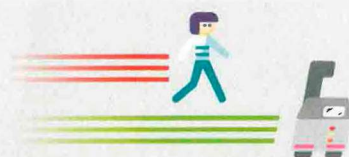


**2.1 m** jobs across retail and wholesale have a **“high chance”** of being automated over the next two decades, according to Deloitte

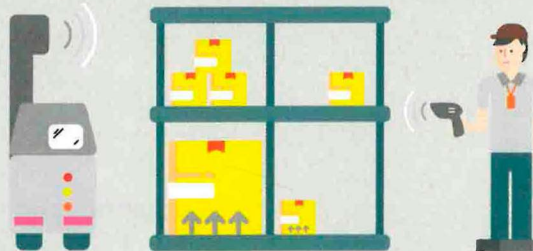


Amazon has **100,000** robots working across its warehouses

Robots are **50% more productive** than human store staff  
says Walmart CTO Jeremy King



Bossa Nova robots scan shelves **three times faster** than humans



According to PwC, by 2030, **drones** could bolster UK retail and wholesale economy by **£7.7bn**



Bossa Nova shelf-scanning robot in Walmart

Chancellor Philip Hammond says **“genuinely driverless cars”** will be on the UK's roads by 2021



Deliveries using an AGV will cost retailers **less than 1p per mile**

# SOLVE

purposes is unlikely to match up with either of those visions," he says.

In the meantime, Skaff says there are less costly changes retailers can make to make the in-store shopping journey more convenient.

He explains that Bossa Nova is considering linking the data its robots collect while scanning shelves to Walmart's mobile app, allowing customers to map the most efficient route of the store based on where the products on their shopping list are located.

The potential of automation to transform how shops are run is massive. The challenge for retailers lies in deciding whether they want to prioritise operational efficiencies, customer experience or both – and how much they can invest to make that vision a reality.

## Next steps

- Assess whether you should be using robots in your store. For retailers with a lot of

uniform products, such as electrical, DIY and grocery chains, this technology can be quickly deployed. But for retailers without consistent RFID tagging, such as fashion businesses, shelf-scanning technology is not as scalable.

- Speak to US start-ups and UK tech firms now about deploying this technology in your store on a trial basis. Set-up costs will be low and major technology suppliers such as IBM, NCR and Microsoft are likely to be developing their own versions of shelf-scanning robots now.

## Who to speak to

- **Bossa Nova:** The market-leader in shelf-scanning robots is working with Walmart.
- **Fellow Robots:** This firm developed the LoweBot for US home and DIY chain Lowe's. This robot has customer-facing and shelf-scanning capabilities, can speak in multiple languages and take a shopper directly to the product they are looking to find. **RW**

## Read the full report

Retail Week's special report, *Can robots help run your business?*, delves into how robotics and automation will impact stores, warehouses, delivery and customer service, which sectors will be most affected and what retailers should do now.

- To read the full report today, go to: [Retail-Week.com/Solve-Robotics](http://Retail-Week.com/Solve-Robotics)



Robotics can improve efficiency and customer data collection