# DIGITAL RETAIL INNOVATIONS REPORT
## 2018

Retail RI Insider.com

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It is with great pleasure that we bring you the annual 'Retail Insider Digital Retail Innovations' report for 2018 which strives to highlight the most interesting and potentially impactful digitally-driven innovations in the retail sector.

Previous versions of the report focused predominantly on the UK, but this year it became increasingly clear that innovation knows no boundaries and that exciting developments are taking place around the world.  Therefore, it seemed sensible to make this year's report more globally focused.

One aspect that has remained constant though, is the prominence of Amazon and its ongoing serious commitment to R&D. Yet again it features strongly at the top of the table with a number of innovations, including the top two positions that are unchanged from last year. The Amazon Echo and Go solutions sit atop the table as their potential impact on the sector continues to grow.

Also noticeable this year is the high placement of a number of automated and robotic innovations, three of which are in the top 10, which suggests we are moving away from robots being simply gimmicks to them actually delivering real value.

There is also a smattering of payment solutions listed this year, undoubtedly a result of the level of ground-breaking initiatives taking place, beyond Europe and the increasing acceptance by consumers.

By having a strong Advisory Panel, with experience drawn from across all fields of retail, we believe this gives the report a robust methodology, providing the necessary credibility to stake its claim as a valuable sector resource.

Each of the Panel independently scores each of the 60 innovations in the report across four different criteria: how innovative, how potentially commercial, potential influence across the sector, potential benefit to consumers. The results are then shown in separate ranked tables.

I would like to take this opportunity to thank the members of the Advisory Panel who have each contributed greatly to the report's final outcome by generously giving up their time and diligently marking their scores.

I'd also very much like to express my appreciation to Webloyalty for its much valued ongoing sponsorship of this report, which we hope provides some value to your business. One thing is for sure, there will be more interesting innovations on the horizon and we will shortly begin the search for next year's list. But for now we hope you enjoy this 2018 production.

**Glynn Davis**
Retail Insider | @GlynnDavis

**PAUL WILKINSON**
**Head of Technology Research, Tesco Labs**
Paul has the interesting role of finding the best technology in the market to make life easier, both for Tesco customers and colleagues. This has involved him helping set up Tesco Labs, being part of its leadership team, as well as initiating start-up programmes in the UK, Israel and US. He liaises with, among others: Microsoft, Google as well as start-ups, then bringing back the ideas created to Tesco, deciding how to make them work for the company.

**MATTHEW HULLY**
**Head of Business Development, John Lewis Ventures**
Matt joined the John Lewis Partnership in 2007 from Tesco. He has previously worked in a number of analyst, business development and strategy roles. In 2016, he became head of business development of the newly formed 'Ventures' unit, an internal incubator which designs, develops and takes to market new growth ideas for John Lewis and Waitrose. Prior to this he was head of brand Innovation for John Lewis.

**DR NADIA SHOURABOURA**
**CEO, Hointer**
Nadia founded US-based Hointer in 2012, with the objective of reinventing the shopping experience. This followed eight years at Amazon where she had an influential role as technology vice president of its global supply chain and fulfilment platform where she worked closely with founder Jeff Bezos. She is also a director on the supervisory boards of both Wolseley and Cimpress.

**TESSA COOK**
**Co-founder, OLIO**
Tessa co-founded OLIO, a free app which harnesses the power of mobile technology and the sharing economy, to provide a revolutionary new solution to the problem of food waste. Prior to this, she spent over 10 years as a digital managing director, in media and financial services, as well as at Dyson. Tessa has an MBA from Stanford, starting her career as a strategy consultant.

**JACQUELINE DE ROJAS**
**CBE, President, techUK**
As well as being president of techUK and Digital Leaders chair, Jacqueline holds non-executive roles at Rightmove, Costain and AO World). She was recently appointed as the co-chair of Institute of Coding and serves on the Government's Digital Economy Council. Among the numerous awards she has received are the 2018 Women in Tech Award for Advocate of the Year (for her contribution to diversity) and a CBE for Services to International Trade in Technology.

**TUGCE BULUT**
**Founder, Streetbees**
Tugce founded StreetBees in order to pursue her passion for the power of data and the positive change it can bring to the world. Prior to this, she spent six years as a strategy consultant, advising technology and consumer companies on how to accelerate growth in international markets. Tugce is a published author, with a Master Degree from Cambridge University.

Technology has been revolutionising the retail industry, and this tremendous pace of change is only set to increase. We're delighted to once again be celebrating the most exciting ideas of the last year, from some of the most forward-thinking brands that are continually innovating to stay ahead of the curve.

Technology is increasingly being embraced to create more engaging, personalised experiences for customers whilst also streamlining operations for brands. In this report, we're seeing how Artificial Intelligence is being used to power voice and facial recognition platforms, to both tailor the customer experience and speed up payment processes. Also, Augmented Reality is being championed by several fashion retailers, such as ASOS and Mango, to provide an immersive experience for shoppers. It's great to see at least a quarter of the list is made up by fashion retailers, demonstrating the critical role innovation plays in achieving competitive edge.
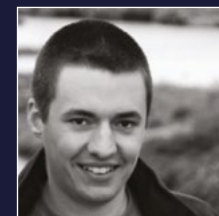
Last year's report revealed new technologies are being used to support sustainability in the supply chain. This trend continues with three initiatives designed to curb food waste ranking highly on the list. Both Karma and TotalCtrl have created apps to address the problem while Metro in Germany has partnered with Infarm to create modular inner-city farms to help combat food waste.

Many of the retailers from last year, including ASOS, Starbucks and Nike, have made this year's list again, offering new or updated innovations for 2018. The industry continues to evolve and build upon its technologies whilst also seeing new, start-up companies joining the mix.

We'd like to thank Glynn Davis at Retail Insider for the opportunity to be a part of this report for the fifth year. We're proud to recognise and applaud these global innovations and look forward to seeing how these innovations develop further in the future.

**Richard Piper**
**Director, Webloyalty**

**JAMES BILEFIELD**
**Non-Executive Director**
**and Investor**
Amongst the varied roles in James's portfolio of interests are: chairman of SThree, director at Stagecoach, chairman of Cruise.co.uk, senior advisor at McKinsey & Company and board trustee at Teach First. He is also an investor in a number of technology and digitally-driven businesses.

**STEVE ROBINSON**
**Non-executive director and consultant**
Steve holds a number of positions including consulting director at Alliants, chairman of Expandly and is founder of We Sell Sleep. Prior to this he held a variety of senior retail roles, which have given him extensive digital experience, including: CEO of Achica, customer director at B&Q, CEO at M and M Direct, and finance director at Argos.

**MARTIN NEWMAN**
**Founder and chairman, Practicology**
Martin is an experienced practitioner in the retail industry with more than 25 years under his belt, latterly at Practicology, which he founded. Prior to this, his various roles included head of e-commerce for both Burberry and Ted Baker. He currently sits on the board of White Stuff and is an advisory board member at Yext.

**OLLY CHUBB**
**Associate Director of Strategy**
**& Insights, Portland Design**
Olly heads the strategy & insights team that sits at the heart of Portland's human-centric design process. With 15 years' experience at the intersection of brand strategy, consumer behaviour and trend analysis, he specialises in transforming cultural insight into creative strategic solutions.

**MIYA KNIGHTS**
**Head of Industry Insight,**
**Eagle Eye Solutions**
Newly settled into her role at Eagle Eye, Miya is working directly with the CEO, to build the business across the retail and leisure sectors. Prior to this, she worked in senior analyst roles at Planet Retail and IDC Retail Insights. This follows a career as a technology journalist and she still remains director as the publisher of Retail Technology magazine.

**JOHN BOVILL**
**Chief Digital Officer, WHL Australasia**
John joined David Jones department store in October 2016, as group executive digital and a member of the executive committee. He was promoted in September 2017 to chief digital officer, WHL Australasia and joined the regional executive committee with responsibility for digital strategy across David Jones and Country Road Group. This consists of: Country Road, Mimco, Politix, Trenery, Witchery. John previously worked at Monsoon, Accessorize as IT and e-commerce director, Jacques Vert Group Ltd as commercial director, and before that at Aurora Fashions.
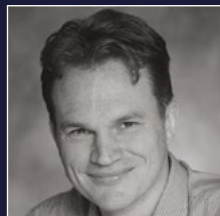
**DANIEL LUCHT**
**Global Research Director,**
**Research Farm**
Daniel leads a team of analysts and consultants at Research Farm with a remit that includes developing strategic content and new revenue streams, as well as corporate planning. He has over a decade of experience analysing the sector and identifying latest industry trends, working with major FMCG companies and retailers.

## METHODOLOGY

Consultation was undertaken with many individuals over the course of the past 12 months, from all areas of the retail industry, including analysts, consultants, advisors, investors, senior executives, and technologists.

This rich well of knowledge sourced a variety of digitally driven innovations that helped build initially a long list of potential constituents of the final report. This was reduced down to 60 innovations, from around the world with each one been scored independently, by members of the Advisory Panel on four different criteria.

Collation of these scores across the criteria helped produce a ranked list of the 60 innovations. The final report contains this list, as well as a Top 20 list of innovations for each of the individual criteria.

1. **HOW INNOVATIVE?**
   What level of innovation is being demonstrated in the solution? The score will be determined to some extent by whether it is truly out there on its own, leading the pack, or whether there is competition from other similar innovations.

2. **HOW POTENTIALLY COMMERCIAL?**
   What commercial value has the innovation delivered to retailers using the solution to date? Furthermore, what value could it potentially create for retailers in the future if widely adopted?

3. **WHAT POTENTIAL BENEFIT?**
   What is the level of benefit the innovation is delivering with the retailers' organisation? Is it having a material impact that could also potentially increase over time?

4. **WHAT POTENTIAL INFLUENCE?**
   What is the level of impact the innovation is having and potentially having, on the retailers using it and possibly on the broader retail sector? What impact could the innovation have as the proposition is built-out? Is it possibly being adopted more widely in the marketplace?

**I**
960
→ POSITION
→ SCORE OUT OF 960

**I**
903

### AMAZON ECHO

Amazon's voice assistant, Alexa, is enjoying significant take-up with the AI-powered solution, running on a hefty 68% of smart speakers sold in 2017. The number of skills continues to expand and the ability to recognise multiple voices in a household enables it to better personalise the engagement with individuals. The visual aspect of Alexa: Echo Look, is also gaining some traction, by connecting to Amazon's social media platform Spark, which enables users to take selfies and ask other users for fashion advice. This complements the interaction possible through the AI capabilities of Alexa.

**2**
880

### AMAZON GO

After much anticipation the first Amazon Go store opened (drawing long queues) providing a frictionless shopping experience, pioneering what the company calls 'Just Walk Out' (JWO) shopping. Customers check-in by scanning the unique code they are given in the Amazon Go app, they simply place their chosen goods in their basket and walk out. Sensors and cameras closely monitor all movements of products and the customer is then charged for their goods by having the funds taken directly from their Amazon account. The success of the first outlet has led to the company considering opening further such cashier-less stores.

**3**
820

### PIZZA EXPRESS / FLYT

When Pizza Express surveyed their customers, the survey revealed the most aggravating thing about eating out was waiting to pay the bill, whilst busy front of house staff were looking after other diners. Determined to tackle the problem, the restaurant chain partnered with technology platform Flyt, to develop a system that allows people to pay and leave in under a minute. Diners who have downloaded the app are given a table number when they arrive. After finishing their meal, they open the app and enter the table number – their bill then flashes up, they pay and are then free to leave without asking for the waiting staff at any point. Customers are also able to redeem offers and vouchers via the app without involving staff. This innovation makes PizzaExpress the first restaurant chain in the UK to provide a waiter-less check out, which is available at all of the chain's 470 restaurants.

**4**
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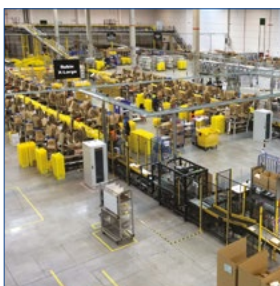
### AMAZON LOGISTICS

At the start of the year Amazon announced plans to build its first cargo hub in the US that will cover two million square feet, reducing Amazon's dependence on UPS and FedEx. The facility will house the firm's fleet of planes and will be highly automated just like the rest of Amazon's impressive fulfilment infrastructure. The company has around 100,000 robots in use at its facilities across the world, which contributes to making Amazon a mighty impressive mover of physical goods. It also continues its drone research.

**5**
792

### ADIDAS SPEEDFACTORY

To massively increase the speed, flexibility and manoeuvrability of Adidas factory production, the company has invested in a state-of-the-art 'SpeedFactory'. Staffed largely by robots and supervised by humans, the facility in Germany can make a pair of Adidas shoes from the basic raw ingredients in a day, compared with the months it usually takes in the hand-assembly, Asian factories. In an attempt to radically cut the length of its supply chain, the robotic machinists can also make tiny changes, offering personalised and customised products in a fraction of the time. Additionally, the products can be digitised – thus enabling them to feedback valuable data to Adidas, about the way the product is being used, thereby informing future design.

**6**
786

### MOBY CONVENIENCE STORE

Based in Shanghai, the Moby convenience store is a prototype that features no staff, no cash registers, and runs on wheels, meaning that it can deliver orders or take itself off to a warehouse for restocking. To enter the unit customers have to download an app; they can then scan any items they wish to purchase or add it to a smart basket which automatically tracks what they are buying. On leaving the store, the customer's card is automatically charged and no further action is required. Although the store mainly features food and daily supplies, it is possible for visitors to orders other items for pick-up at another designated time.

**7**
764

### WAL-MART / BOSSANOVA ROBOTS

Wal-Mart is using robots from Bossanova in 50 of its US Stores, to autonomously move around the aisles and use a combination of image recognition and RFID to check inventory levels, enabling planogram compliance across the outlets. The robots can also read labels, detect if they are in the right position, as well as showing the correct price for the specific product. This is part of a broad move by the company, to remove the more tedious tasks for store employees, freeing up their time for more value-added activities.

**8**
763

### OCADO WAREHOUSE ROBOTICS

Ocado continues to invest in its warehouse capability. This has given them a unique proposition, which is now being leveraged by other food retailers overseas. The fleet of 1,000 robots at its Andover site, are now able to put together a 50-item order in five minutes, compared with the two hours that it previously once took. The robots have also made it possible to fulfil as many orders as an earlier warehouse which was three-times the size and employed 600 people, versus the 200 that are currently required. Automation has also enabled Ocado to stock a larger variety of products, as well as reducing waste to less than 1% of its inventory, compared with an average of 5% for other UK food retailers.

**9**
745
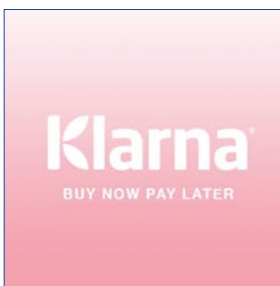
### ASOS PAY LATER / KLARNA
Try before you buy has become a feature of the fashion retail world with Amazon fuelling the trend with the launch of its Prime Wardrobe service. Following suit, ASOS now offers a Pay Later option that allows shoppers up to 30 days to pay for the goods that they choose to keep, with the remainder being returned to ASOS. The company had found that customers unable to try on items before buying had long been a major challenge. This new option provides the capability and flexibility for shoppers to explore the range more easily, potentially driving up sales. To offer this form of flexible payments, ASOS relies on provider: Klarna.

**10**
743
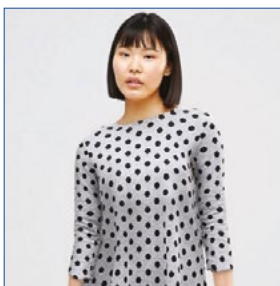
### ASOS VARIABLE VIRTUAL MODELS
Already a big hit with customers, ASOS has started experimenting with body inclusive AR technology, to allow consumers to see the same dress/clothing item on several different body types before they buy. In due course, ASOS intends to roll-out the new styling on its app too. Customers have greeted the move with delight, as it allows customers for the first time to see what an outfit might look on someone who is not a model, but of a similar shape/size to them.

**11**
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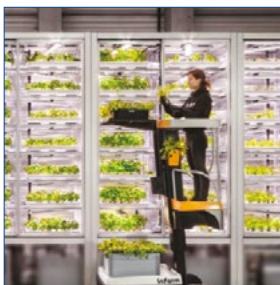
### METRO / INFARM
Berlin-based Infarm, has pioneered a vertical farming tech systems for restaurants, grocers and distribution centres to bring fresh and artisanal produce closer to consumers. Now it has teamed up with Metro, with plans to be fully operational, with 1,000 'farms' across Europe by the end of 2019. The company produces modular indoor farms that are capable of growing salads, herbs and even some fruits. These then can then be transported and inserted into a large variety of city locations, enabling customers to pick produce themselves. It is almost infinitely scalable and is all controlled remotely through the cloud, meaning all monitoring can be done through the Infarm central control centre. Metro currently hosts some 50 farms across Germany and reports that up to 1,200 plants per month can be produced for sale in each individual eco-system. Metro and Infarm hope that the system will radically reduce inefficiency and waste in the food supply chain.

**12**
724
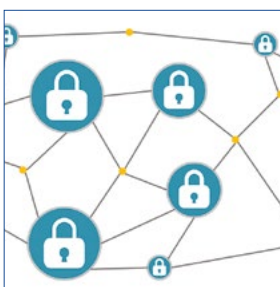
### CARREFOUR BLOCK CHAIN
Food safety is rising up the agenda and Carrefour is using the secure nature of blockchain technology, to enable all parties along the supply chain (producers, processors and distributors) to provide traceability information about their particular role and for each batch (including dates, farm buildings and distribution channels). Initially this is being used on free-range chicken, but the supermarket intends to extend to more product lines by the end of 2018. Consumers can access the information from the block chain, by scanning the QR code on the product's label.

**13**
708

### ROBOMART
Robomart is tapping into the self-driving car trend with a grocery shop on wheels that comes to the consumer. The company is hoping to license its vehicles to different retailers who will then stock the unit with their own goods. Customers simply request a visit from the nearest operational car. On arrival, the customer unlocks the doors and removes the items they want. Checkout-free technology will track what people take out, charge them using pre-given card details, then sends them a receipt. Trials will initially begin in California, then, if successful, roll-out across the US.

**14**
696

### ZARA CLICK & COLLECT ROBOTS
As much as a third of Zara's online sales are picked up in one of the stores. This in turn has led to a problem for the retailer, often resulting in large Click & Collect queues of disgruntled customers. In an attempt to rectify this, Zara has developed a robotic service that involves fetching ordered items from the back of the store and bringing them to a drop-box where the consumer can pick them up. Customers now only need to scan or enter a collection code when they arrive at the store, which activates the process. The service is currently available in 85 US locations on a trial basis.

**15**
696

### SPOON GURU / TESCO
Tesco's tie in with Spoon Guru attempts to solve the problem of offering the right food to customers whatever their dietary requirements. With the 'free-from' and vegan markets now worth £800 million, Spoon Guru pairs AI data processing and optimisation capabilities, with customer insight and nutritional advice. Tesco's entire range has been reclassified and sorted into 180 different dietary tags. Tagging every product has increased what it can offer to vegan customers, for example: 162 products that used to form its entire vegan range to now offering 16,000. This in turn has allowed Tesco to understand much better, how the range can be sold to different markets and should bring big customer data and loyalty benefits. The transparent information about products now available has addressed a very time-consuming problem for people with dietary requirements.

**16**
684

### H&M IMAGE SEARCH
H&M has already rolled this technology out in 13 markets including the UK but expect to see it in many more territories in the future. Using self-learning algorithms, Image Search is a tool that allows the consumer to post an image they have seen elsewhere, on Instagram for example, direct to the H&M app. It then presents several of the most similar looking and instantly purchasable products from the entire H&M online range. The aim is to move the customer ever closer from the moment of inspiration, to an immediate purchase. Image Search appears on the app as a small camera icon in one corner. It also allows H&M to sell more of its own products that look similar to those of other brands.

**17**
682



### KFC / ALIPAY 'SMILE TO PAY'
At a KFC branch in China, the fast food company is using facial recognition software from Alipay to enable customers to pay for their food by smiling. The solution uses a 3D camera to identify a customer's face in just a couple of seconds, which then authorises their digital payment. 'Smile to Pay' offers great convenience to customers while the technology is sufficiently secure to detect any attempts at criminals using other people's photos or video recordings.

**18**
675
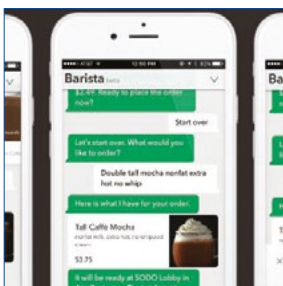


### STARBUCKS VOICE ORDERING / SAMSUNG BIXBY
In an initiative designed to move forward with its mobile order and pay technology, consumers in South Korea can now remotely voice activate a Starbucks order using Samsung's digital assistant Bixby. They can also pay for it at the same time in advance of picking up the order. Starbucks becomes the first retailer in South Korea, to leverage Bixby, to allow end-to-end ordering and payment. The service is open to all My Starbucks Rewards users and allows them to speak to Bixby in the same way as to a barista, including making personal modifications to their drinks.

**19**
672



### AMAZON KEY
The next frontier for e-commerce is undoubtedly in-home delivery and Amazon is setting the pace here with the roll-out of its Key feature. It enables delivery drivers to enter a customer's home with ordered items through a keyless entry solution. It combines an app, home security camera, and a smart lock that couriers are able to unlock via the app once the package has been scanned upon arrival. Customers are notified of this on their phone and can watch the entry take place via a cloud-connected camera. Among its capabilities, it could solve the headache of missed deliveries. Amazon indicated its intent in this area, with the recent $1 billion purchase of video doorbell business Ring.

**20**
671



### NIKE / SNAPCHAT
The first product launched for sale through Snapchat was a Nike trainer: the Air Jordan III 'Tinker' model, which was pre-released for sale on the platform, coinciding with the last night of the NBA All Star game. Working with delivery company DarkStore, the shoes sold out within 23 minutes. Attendees at the associated Jumpman All Star party were issued with Snap codes, which, once activated, brought the consumer direct to the Snapchat app to enable purchasing. The trainers were all delivered by 10.30pm the same night via DarkStore. The trial fits into Nike's stated intention to increase direct to consumer sales.

**21**
671



### RAKUTEN COIN
Japanese e-commerce giant Rakuten has unveiled its own currency to be called: Rakuten Coin. Initially it will form part of its customer loyalty scheme. The company has long been an investor in crypto-currency research and was one of the first retailers to take up Bitcoin. The belief is that eventually, their own coin will take it from a predominantly Japanese player into a more international name by offering a borderless payment system, avoiding exchange rate fees. Rakuten's loyalty programme has awarded around $9 billion to its customers since inception, with the expectation that ultimately, the currency will also be usable across the rest of the company's eco-system, including its mobile messaging service: Viber and on-demand video service.

**22**
666



### GO INSTORE / FARFETCH
Through its new Live Broadcaster solution, the live video product Go Instore is effectively enabling retailers to turn their websites into shopping channels via live video across their website, Facebook and YouTube simultaneously. Go Instore is bringing an immersive experience to online shopping for the likes of Farfetch and DFS by enabling consumers to call on sales staff in-store to become 'live advisors'. Via one-way video and two-way audio they can give demonstrations of products, as well as be directed to show certain aspects of items that can assist the shopper and boost conversion rates. Record and playback features help retailers reuse video content across different product category pages.

**23**
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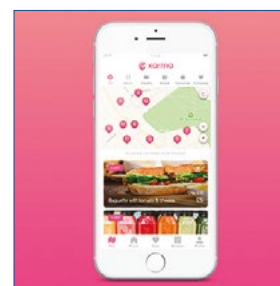


### KARMA FOOD WASTE APP
Launched in Sweden in 2016, Karma opened up shop in the UK, quickly signing up multiple restaurants including Michelin-starred names like Aquavit. It is also in talks with big food retailers. The system works by allowing businesses to upload details of their surplus food stocks to the Karma app. Karma's customers then place orders for that food, pay in advance, and also arrange a pick-up time. Karma believes that the foodie nature of Londoners, together with their environmental consciences and penchant for digital purchasing, should transform the food waste landscape in the capital. The app uses customer data/history to push the most relevant foods for an individual matching their profile, with the relevant restaurant's peak times for surplus.

**24**
661



### INS RETAIL PLATFORM
Tech firm INS has big plans for its new grocery shopping platform, claiming it could cut bills by 30% from taking out the middlemen (i.e. the major supermarkets and other retailers) and making the whole industry more efficient. Big manufacturing names such as Unilever, Mars and Reckitt Benckiser are understood to be among the companies that have so far signed up to register interest in the system, which is powered by blockchain technology. INS cites the situation in the UK, where 7,000 manufacturers are dependent on four main retailers, as being unsustainable, although critics note that price reductions are only one of the main consumer drivers because convenience is today also a big driver.

**25**
661



## NIKE / INVERTEX

The purchase of Israel-based Invertex enables the sports retailer to deliver tech-centric shoe customisation with the potential of many more options. It includes the Launch Pad tech that is a unit that can be placed in-store to scan in 3D a consumer's feet instantly with the results being sent direct to mobile phone. Launch Pad can therefore be used to suggest the most appropriate models and sizes for optimum fit. Nike will also be expecting the start-up will boost the customer's e-commerce experience, whilst aiding mass customisation in production lines by deploying deep learning technologies.

**26**
659



## NIKE MAKER'S EXPERIENCE PERSONALISATION

With Retailtainment's newest theme allowing customers to design their own products while they wait, Nike's: 'Maker's Experience' taps neatly into this trend. Guests are invited and given the opportunity to create personalised trainers in under an hour, compared with the online customisation process that takes around eight weeks. Invitees can either use pre-designed templates, or create their own shoe from scratch. Nike hopes that this in-store personalisation capability will encourage further shop visits, collaborations, and brand buy-in from customers.

**27**
652
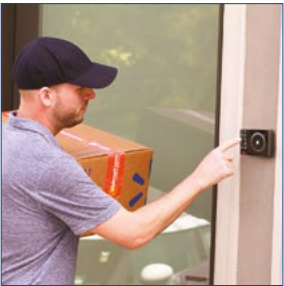


## WAL-MART / AUGUST HOME

Wal-Mart has been testing a new service in partnership with smart lock-up: August Home, which allows one-time entry into a customer's home, in order to enable the delivery of groceries to be made when no one is at home at the time. The delivery aspect is being undertaken by Deliv, whose drivers receive a one-time pass-code that gives them entry into the customers' home. If the trial is successful it will help alleviate the last-mile problem and potentially lead Wal-Mart to sign-up other smart lock manufacturers to extend its reach.

**28**
652



## SPLASH FASHION

Trying to get over the perennial problem of locating difficult addresses for deliveries, one of the Middle East's largest fast fashion retailers, Splash Fashions has developed some innovative mobile usability, allowing customers to pin their location directly onto a map where entrances/access information are too complicated to explain in a text box online. The consumer is given the option at checkout to pin their location on Google Maps to ensure a faster delivery.

**29**
650



## KALMS VENDING MACHINES

Singapore-based gifting company: Kalms, solved the problem of high rentals by closing all its stores and moving its stock into vending machines. A fleet of 50 machines now house Kalms range of teddy bears and jewellery. The move is an innovation driven by the high costs of property in Singapore and the scarcity of good retail employees. Since changing to a vending model, Kalms has recorded successive growth for 16 months and is now planning to tie-in with numerous other retailers to increase its offering to food, clothing and electricals. It hopes to introduce hundreds more units across Singapore in the near future.

**30**
650



## SEPHORA STUDIO

Stores of beauty product retailer Sephora are usually home to large beauty emporia. However, the concept of Sephora Studio turned this on its head. Located on smaller streets in residential areas with an intimate neighbourhood feel, Sephora Studio focuses totally on experiential, personal retail. The stores offer eight seats in their centres that are purely for customers to experiment and play with the products while receiving advice from staff. These outlets also include a variety of digital tools to optimise client experiences before, during and after their store visit. Among them are: digital welcome and service menu screens for easy navigation and self-help, beauty advisors with mobilised devices that quickly service clients with appointment check-ins, looking up their Beauty Insider status, and retrieving Sephora.com ratings and reviews on any product throughout the store.

**31**
646



## ZOZOSUIT BODY MEASUREMENT

Tokyo-based e-commerce firm Zozosuit has developed a new body measurement device. The sensor technology captures 15,000 tiny measurements of a customer's body. These numbers are then sent to an app, via Bluetooth and then automatically uploaded to the Zozosuit service, where it is used to construct completely personalised, one-off clothing.

**32**
633



## BIDOOH FACIAL RECOGNITION ADVERTISING

Out of home (OOH) advertising has become a lot smarter through the digital OOH platform, from Bidooh, which removes much of the guess work from advertising by using facial recognition analytics, smart sensors, and digital signage technology. It can detect and measure the demographics of individual consumers who have viewed ads on the digital screens. It is able to do this down to age, gender, and also emotion, whereby it can then personalise the messaging to consumers as they first glance at the screen. Advertisers are then able to adjust their strategy in real-time.

**33**
628

### KROGER EDGE

Kroger believes its Edge solution will change grocery shopping by replacing static paper price tags with digital pricing and nutritional information screens. This allows for dynamic pricing and promotional activity to be activated, while saving on the many hours spent manually changing the ordinary tags. Kroger also hopes that the technology could be used in the future to interact with customers shopping lists on smart phones, thereby assisting them with their shopping, by highlighting the shelf position of the next product on their list when they reach the correct aisle. Customers with dietary requirements can also tap into Kroger Edge, which can pick out the relevant products for their particular situation. Customers currently need to use a handheld device to link into Kroger Edge.

**34**
620
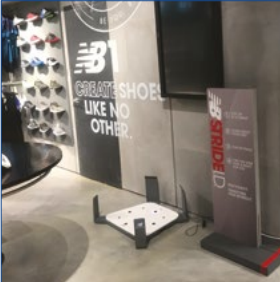
### NEW BALANCE / VOLUMENTAL

Volumental uses 3D camera technology to precisely measure people's feet, to an accuracy of 1mm from a five-second scan, already working with retailers such as New Balance. This technology has resulted in returns with one retailer reduced from 7% down to 4% and for conversions at New Balance to increase by 20% versus traditional shoe fittings with a sales assistant involved. Once a scan has been taken, its visual search image recognition utilises AI by taking information from all the stores and are able to look at the past history of a customer and others like them, to find relevant recommendations.

**35**
619

### VITA MOJO

Using the iPads in the Vita Mojo restaurants enables each dish to be personalised to the individual customer. Sliders are used to determine exactly how much the customer wants to include each of the ingredients, this allows for a fully customisable lunch. The price of the dish updates in real-time so there are no surprises at the payment stage. The personalisation aspect of Vita Mojo, has been fully extended through a tie-up with DNAFit that analyses a swab of a person's saliva, the findings of which, can then be attached to the profile held by the restaurant enabling any specific dietary requirements being adhered to.

**36**
618

### PIZZA HUT / TOYOTA SELF-DRIVING DELIVERY VAN

Pizza Hut recently showcased its e-palette delivery truck concept. This is expected to be operational as a pilot at the Tokyo Olympics in 2020 and thereafter in the US. The vehicle will host a mobile store, deliver pizzas, and could also act as a ride-sharing service. The Toyota designed vehicle will be electric, fully autonomous and range in size from 13 to 23 feet. The inside – with a low floor and open interior - will also be completely re-configurable within 24 hours depending on its requirements at the time. Pizza Hut is even considering whether pizzas can actually be cooked in the delivery trucks themselves.

**37**
616

### AMAZON DASH

The next stage in the evolution of the Dash button is the Dash Replenishment Service. This involves electrical goods and consumer devices, such as washing machines and coffee makers having Amazon's technology embedded within them. They then automatically order items like washer tablets from Amazon when the technology calculates that supplies are running low, all as a result of the levels of usage that it has been monitoring. In the US major names such as Whirlpool and Brother have already committed to the scheme and the plan is to roll-out the service within the UK.

**38**
611
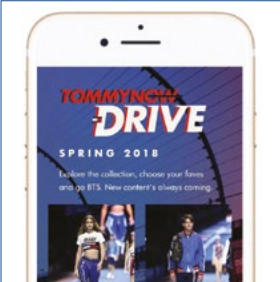
### TOMMY HILFIGER / SLYCE

Tommy Hilfiger uses image recognition software from Slyce to power its 'See Now, Buy Now' capability that allows photos to be taken of any of the group's products – from its global collections - within its app, for this then to be matched up with products in-store or online, which can then be purchased. Slyce prides itself on the quality of its recognition capabilities, versus the likes of Amazon and Google, as it builds classifiers and detectors, which are the initial level of recognition. Machine learning is employed to train the solution to recognise user generated photographs of variable quality. As a result of its use by retailers including: Home Depot and Macy's, average order values increased by 20% and conversion rates are typically 60% higher.

**39**
610

### DOMINO'S ANYWARE TECHNOLOGY

Pizza giant Domino's has developed AnyWare technology to inform customers about all the dining options when ordering delivery or a take-away. The beauty of this virtual assistant is that it can be accessed through Facebook Messenger, smart watches, Amazon Echo, Google Home and even Twitter, with the message being, that Domino's will come to wherever the consumer is and whichever platform they are using. Users type 'Pizza', send it to Domino's, after which they can list orders from the full menu that is available to them. The technology is designed to make customers' lives easier and thereby enhance brand loyalty.

**40**
607

### CALIBURGER FACE RECOGNITION

CaliBurger has implemented kiosks in its restaurants developed with NEC, using its NEOFace software, to recognise customers when they approach the kiosk, automatically activating their loyalty programme and preferences ahead of them ordering from the interactive screen. This enables a five-to-ten second reduction in ordering times, which builds up over the course of a day, as well as reducing labour costs, thus helping with data acquisition. There is also the ability to gain basic demographic information from the visual data - initially this is gender and estimating the customers' age, but over time as the AI comes fully into play, then more advanced data points will be possible such as expressions. Whether a customer is happy or sad will determine the content that is displayed on the kiosk.

**41**
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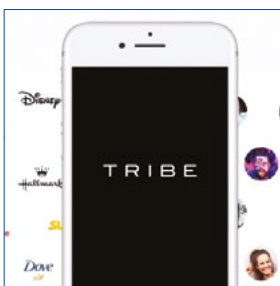
### UNILEVER / TRIBE INFLUENCER NETWORK
Unilever has been using the influencer network Tribe to change its marketing strategy from focusing on nationally known (and very expensive) influencers, to instead using smaller scale users, with between 3,000 and 10,000 followers on Twitter and Instagram in a more targeted approach. This move allows for much more creative control from Unilever, which effectively takes on the role that would have been formerly performed by an agency, (often proving expensive), of approaching influencers with a brief and asking them to contribute content. For a recent campaign on Stork, Unilever picked the best 20 posts from smaller influencers via Tribe on things they had made using Stork margarine and then paid the influencers to post the content on their own sites.

**42**
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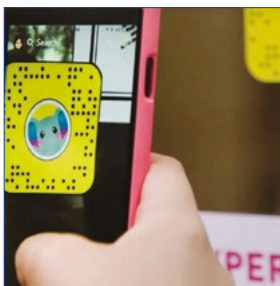
### SNAPCHAT AR 'BUY' BUTTON
Snapchat is expanding its use of Augmented Reality (AR) to sell products by adding a 'buy' button to its camera app. The company is hoping that its users will embrace the idea of 'shoppable AR' and already has brands such as Adidas, Candy Crush and Clairol signed-up to offer consumers a virtual try out of some of its products with the option to buy. Adding the purchasing capability, means Snapchat, can offer more than just engagement through its filters and facemasks by having a real channel to a new market. It forms the latest part of Snapchat's Sponsored Lenses initiative, where retailers create branded filters – basically product placement for selfies.

**43**
601

### B&H PHOTO VIDEO / DISPLAYDATA
Photographic and video retailer B&H Photo Video has installed Displaydata's Electronic Shelf Labels to ensure that despite the fast paced promotion-driven nature of the category, its prices are aligned across channels, without the need for staff time spent on manually retagging and labelling products. Through a central software platform, a single employee can now design or change the pricing templates, pushing updates out to all shelving and online in a matter of seconds. In addition, the store staff can also use hand-held devices to scan products and link them to planograms in order to ensure the right labels are updated.

**44**
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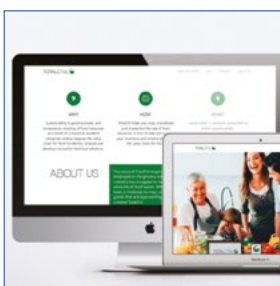
### TOTALCTRL / HANDLERIET
TotalCtrl is described as a 'personal kitchen assistant', which is adding to the growing number of services aimed at reducing food waste. It does this in the home by monitoring when food may be expiring in consumers' fridges as well as in the fridges of retailers. Norway-based supermarket Handleriet, is using the solution, which involves people ordering online from the grocer and then being notified when the food nears expiry, in order to encourage early consumption. The app also has the capability of sending out recipes, based on the items that it knows to be in the fridges.

**45**
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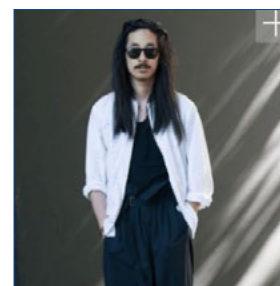
### ZALANDO / BLLUSH
Using Bllush's AI-powered platform, fashion and interior design retailers can easily publish high quality, themed and licensed content directly to visitors to their websites. Currently working with stores such as Vivense, Lesara and Zalando, Bllush delivers content by scanning all the products sold on a store's site. It then reviews all the text and images in order to look for interesting 'clusterings' that could be bundled together as a trend. These trends are later transformed into a story for publication online.

**46**
595

### ALIBABA VENDING MACHINE / FORD VEHICLES
Alibaba and Ford have taken test driving to the next level with a pilot in TMall, Guangzhou, China. It allows consumers to select a Ford vehicle through an app, electronically pay a deposit, and then pick up the model they have chosen, via an unmanned vending machine for cars. The vehicle is then available for a three-day test drive. All this is done in less than 10 minutes. Consumers having chosen their car of choice, take a security selfie, ensuring only they are allowed to take the car on the test drive. The car is then delivered from a multi-storey parking facility to the ground floor of TMall at a time chosen by the customer. Two test drives are permitted for each person provided different models are chosen. If a car is then ultimately chosen, the consumer simply visits a Ford store to pay the remaining balance.

**47**
592
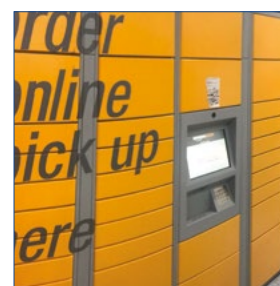
### AMAZON LOCKERS
The addition of e-commerce pickup lockers at Whole Foods Market Stores has helped parent company Amazon increase the number of quick shopping trips at these outlets. Since the acquisition of the supermarket, these micro-visits have increased 11% at stores, with lockers versus 7% at other outlets. The lockers have boosted dwell time and footfall at these physical outlets, with Amazon continuing to roll-out the units – which are unlocked via a code sent to the customer once they have placed their order – to Whole Foods stores. This is an example of how Amazon continues to build out a multi-channel capability. Lockers can be found at over 2,000 locations in 50 cities around the world.

**48**
592

### PINTEREST SHOPPING ADS
Shopping Ads were launched on Pinterest in 2017 with a few brands involved and it has since been expanded with hundreds of companies using them including Dorothy Perkins, Made.com and JD Williams. Shopping Ads automatically create Promoted Pins from a retailer's existing product feed, which seamlessly turns a product catalogue into inspirational actionable ads. Pinterest is continuing to develop its ads by exploring new formats for shopping, including lifestyle imagery, so that consumers can see how a product will fit into their lives: such as a piece of furniture in a living room or a beauty product on a person's face.

**49**
591



### MANGO DIGITAL FITTING ROOMS
Mango has partnered with Vodafone, to further streamline and blend its online and offline shopping, by introducing an Internet of Things digital mirror into all its flagship stores around the world. Shoppers scan clothes tags in the fitting rooms, which prompts sales staff via a digital watch. They can then be given instructions on bringing different sizes/colours direct to the customer, while the fitting room mirror also suggests additional clothes to complement the customer's own choices. Vodafone has developed the technology platform in conjunction with Jogotech.

**50**
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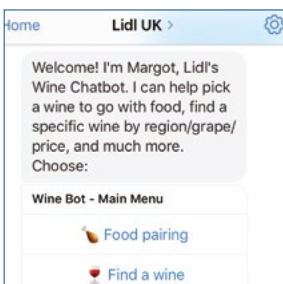


### LIDL WINE CHATBOT
Lidl is the first supermarket to launch an AI-powered sommelier-style chatbot in its wine section to help customers with any questions that may arise. The Facebook Messenger-based chatbot (which is personalised as Margot), mainly advises on food pairing with wine. Margot also offers a set of frequently asked questions and provides information on the retailers' fine wines selection, as well as hosting a wine quiz for customers that aims to introduce them to the full Lidl wine selection. Lidl is hoping that the ever-increasing slice of the UK population who use Facebook Messenger will embrace this idea.

**51**
585
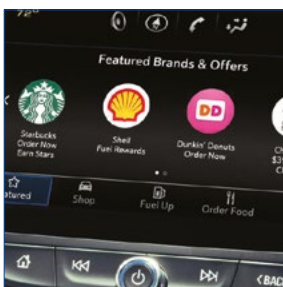


### GENERAL MOTORS MARKETPLACE
General Motors is set to equip its newest models with dashboard e-commerce technology in the form of icons embedded into the car, this could enable drivers to reserve hotel rooms, book tables, order food and find petrol as they drive. The Marketplace technology has been developed in conjunction with IBM and will be automatically uploaded to nearly two million 2017 models of Chevrolet, Cadillac and Buick ranges and will be in around four million cars by the end of 2018. General Motors will receive revenue from those retailers featured in the Marketplace, while customers will not be charged for the service.

**52**
578



### WAYFAIR 3D FACEBOOK NEWS FEED
Since Facebook introduced a new way of sharing 3D posts, US home-ware retailer Wayfair has been one of the first companies to sign-up. The new feed on Facebook News, allows an object to be seen from all sides, which will respond to scrolling and touching. An early adopter of virtual reality and 3D modelling to sell its products, Wayfair is expected over time to deliver a whole catalogue of furniture and décor via 3D posts, which shoppers can interact with without leaving the Facebook feed.

**53**
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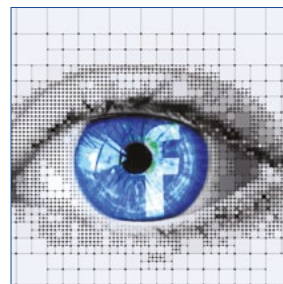


### FACEBOOK IN-STORE FACIAL RECOGNITION
Always seeking ways to make more intelligent use of its data, Facebook is in trials to develop a system of facial recognition that will link to cameras in shops and give the sales staff instant insights into the customers' profile as they walk through the door. Additionally, facial recognition linking to bank details could be used for payment purposes instead of having people queue up at the cash tills. Facebook has 1.2 billion recognisable faces stored that clearly presents it with a major opportunity, but it clearly has to tread very carefully.

**54**
576
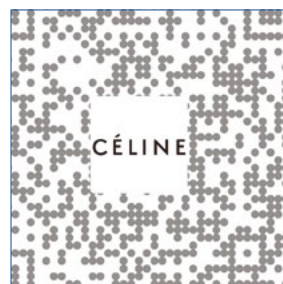


### WECHAT /CELINE
Luxury fashion brand Celine might not have a Facebook page but it has recently opened an account in China on the WeChat platform. WeChat boasts 900 million daily users, potentially providing the ideal entry point for slightly nervous brand, still unsure as to whether to fully commit to the huge players: AliBaba and JD.com in the lucrative Chinese luxury market. Its account on WeChat allows Celine to interact with customers through one-to-one messaging, sending them branded campaigns and also selling limited editions direct to the consumer. Utilising a secondary platform in this way ensures a seamless interaction with the customer in China's complex retail market.

**55**
574



### RENT THE RUNWAY KIOSKS
Rent The Runway has an innovative model of renting out clothing that was initially online-only but it has since opened five stores. These became massively popular after the company launched its unlimited subscription service. Queues stretched around the block as people returned their rental goods and collected their next items, causing major issues. The solution has been to introduce a kiosk, developed by Aila Technologies, which comprises an iPad with proprietary software that enables high quality scanning to be undertaken from the device's in-built camera. As the solution is develop, it will be used as a self-service tool involving customers scanning their own personal QR code, which brings up their account details, after which they can scan the products' barcodes. This immediately updates the company's inventory management system.

**56**
571
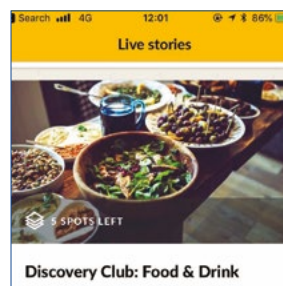


### STREETBEES
Traditional market research has been updated through Streetbees, involving users downloading the app, thus being open to receiving requests from brands and retailers to share photos and videos of them using the company's products. Rather than asking people survey questions, this visual research is regarded as significantly more robust and honest. It has found favour with many companies, including PepsiCo, Unilever and Dyson who push requests to the one million bees around the world who are paid the living wage of their own country. Streetbees is currently growing its technical team who are working on machine learning and natural language processing.

**57**
550

## ESTEE LAUDER / GOOGLE ASSISTANT AND HOME

Google and Estee Lauder have teamed up to offer personalised beauty advice in customers' own homes via the voice activated Google Assistant on Google Home. Interested shoppers can ask: "OK Google, can I talk to the Estee Lauder Night-time Expert". This then opens up a chat experience based on beauty routines. As well as recommending products, the app also features practical application technique advice. The session concludes with the Night-time Expert inviting the customer to a free skincare service in store, at an Estee Lauder counter. The chat was initially only available through the relevant app but is now offered on mobile through Google Assistant and the Estee Lauder website.

**58**
526
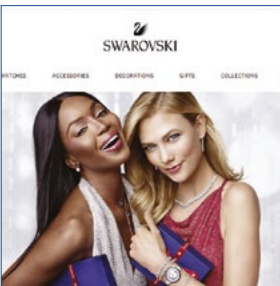
## SWAROVSKI VIRTUAL JEWELLERY TRY-ON

Purchasing jewellery typically involves people trying on the items beforehand, which can be an issue for companies selling jewellery online, as well as being very time-consuming in physical stores. Swarovski developed a virtual try-on solution, taking an image of the customer's hand and virtually adds on the products. The initial version was for employees to use as an assistance tool when dealing with customers, but this has been extended to also allow self-serve by shoppers. The solution has not replaced the actual 'trying on' but is used as a pre-selection tool, still saving sales staff time in-store overseeing the trying on process.

**59**
513

## VIRGIN HOLIDAYS IMMERSIVE SHOWROOM / YOURSTUDIO

For its first Wales-based showroom in Cardiff, Virgin Holidays has created an immersive retail experience for customers. It partnered with YourStudio to develop the concept of a customer beginning their holiday in the showroom, the space containing a full mock-up of a Virgin Atlantic cabin, with First Class and Premium Economy seating, whilst drinking champagne and eating snacks from the mini-bar. Also featured at the front of the store, are virtual reality seats, taking the sitter on a global VR trip, with Virgin Atlantic ending up in Las Vegas via Africa, England and outer space. With no traditional sales desks, YourStudio has innovated around the concept of taking the customers on a complete retail experience.

**60**
511

## WAL-MART / REALSENSE

Wal-Mart has been employing RealSense technology from Intel, to work with brands including Hershey's and Pepsi, to pilot digital shelf-edge labelling that recognises when people are passing by the shelves. It shows pricing when they are nearby and promotional imagery when nobody is close by. The facial recognition may have the capability to also recognise Hispanic customers, thereby adjusting the language on the shelves and digital screens. The retailer could effectively store individual customers' photos and do personalised offers.

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## TOP 20: INNOVATIVE

### CRITERIA
The level of innovation demonstrated in the solution. The score was determined by whether it is truly out there on its own leading the pack or whether there is competition from other similar innovations.

| | |
|---|---|
| 1 | ADIDAS SPEEDFACTORY |
| 2 | AMAZON GO |
| 3 | AMAZON ECHO |
| 4 | MOBY CONVENIENCE STORE |
| 5 | ROBOMART |
| 6 | CARREFOUR/BLOCKCHAIN |
| 7 | WALMART/BOSSANOVA |
| 8 | METRO/INFARM |
| 9 | RAKUTEN COIN |
| 10 | OCADO WAREHOUSE ROBOTICS |
| 11 | PIZZA HUT/TOYOTA SELF DRIVING DELIVERY VAN |
| 12 | VITA MOJO |
| 13 | CALIBURGER FACE RECOGNITION |
| 14 | AMAZON KEY |
| 15 | ALIBABA VENDING MACHINES/FORD VEHICLES |
| 16 | AMAZON LOGISTICS |
| 17 | KFC /ALIPAY 'SMILE TO PAY' |
| 18 | ASOS VARIABLE VIRTUAL MODELS |
| 19 | NIKE MAKER'S EXPERIENCE |
| 20 | FACEBOOK IN STORE FACIAL RECOGNITION |

8 | Metro/Infarm

3 | Amazon Echo

18 | ASOS Variable Virtual Models

20 | Facebook in store facial recognition

## TOP 20: POTENTIALLY COMMERCIAL

**CRITERIA**
The commercial value the innovation has delivered to retailers using the solution to date and what value could it potentially create for retailers in the future if widely adopted.

1. AMAZON ECHO
2. AMAZON LOGISTICS
3. PIZZA EXPRESS/FLYT
4. ADIDAS SPEEDFACTORY
5. ASOS PAY LATER /KLARNA
6. OCADO WAREHOUSE ROBOTICS
7. WALMART/BOSSANOVA
8. AMAZON GO
9. ASOS VARIABLE VIRTUAL MODELS
10. METRO/INFARM
11. KALMS VENDING MACHINE
12. MOBY CONVENIENCE STORE
13. SPOON GURU/TESCO
14. PINTEREST SHOPPING ADS
15. NIKE/SNAPCHAT
16. AMAZON LOCKERS
17. H&M IMAGE SEARCH
18. GO INSTORE /FARFETCH
19. NIKE/ INVERTEX
20. ZARA CLICK AND COLLECT ROBOTS

## TOP 20: POTENTIAL BENEFIT

**CRITERIA**
The level of benefit the innovation is delivering within the retailers' organisation(s). The innovation has a material impact that could also potentially increase over time.

1. AMAZON GO
2. PIZZA EXPRESS/FLYT
3. ASOS PAY LATER /KLARNA
4. AMAZON ECHO
5. MOBY CONVENIENCE STORE
6. ASOS VARIABLE VIRTUAL MODELS
7. SPOON GURU/TESCO
8. AMAZON LOGISTICS
9. ADIDAS SPEEDFACTORY
10. ROBOMART
11. SPLASH FASHION
12. STARBUCKS' VOICE ORDERING /SAMSUNG BIXBY
13. METRO/INFARM
14. GO INSTORE /FARFETCH
15. OCADO WAREHOUSE ROBOTICS
16. ZARA CLICK AND COLLECT ROBOTS
17. H&M IMAGE SEARCH
18. KFC /ALIPAY 'SMILE TO PAY'
19. ZOZOSUIT BODY MEASUREMENT
20. TOTAL CTRL/HANDLERIET

11 | Kalms vending machine

19 | Zozosuit body measurement

20 | Total CTRL/Handleriet

4 | Adidas SpeedFactory

18 | Go Instore /Farfetch

8 | Amazon Logistics

5 | Moby convenience store

ALWAYS OPEN

## TOP 20: POTENTIAL INFLUENCE

**CRITERIA**
The level of impact the innovation has, or could potentially have, on the retailer(s) using it and possibly on the broader retail sector. The impact the innovation could have as the proposition is built-out and is possibly adopted more widely in the marketplace.

1  AMAZON ECHO

2  AMAZON GO

3  PIZZA EXPRESS/FLYT

4  AMAZON LOGISTICS

5  ASOS PAY LATER /KLARNA

6  OCADO WAREHOUSE ROBOTICS

7  WALMART/BOSSANOVA

8  MOBY CONVENIENCE STORE

9  ASOS VARIABLE VIRTUAL MODELS

10  CARREFOUR/BLOCKCHAIN

11  ADIDAS SPEEDFACTORY

12  ZARA CLICK AND COLLECT ROBOTS

13  METRO/INFARM

14  NIKE/SNAPCHAT

15  H&M IMAGE SEARCH

16  SPOON GURU/TESCO

17  KFC /ALIPAY 'SMILE TO PAY'

18  INS RETAIL PLATFORM

19  SEPHORA STUDIO

20  KARMA FOOD WASTE APP

10 | Carrefour/Blockchain

20 | Karma food waste app

2 | Amazon Go
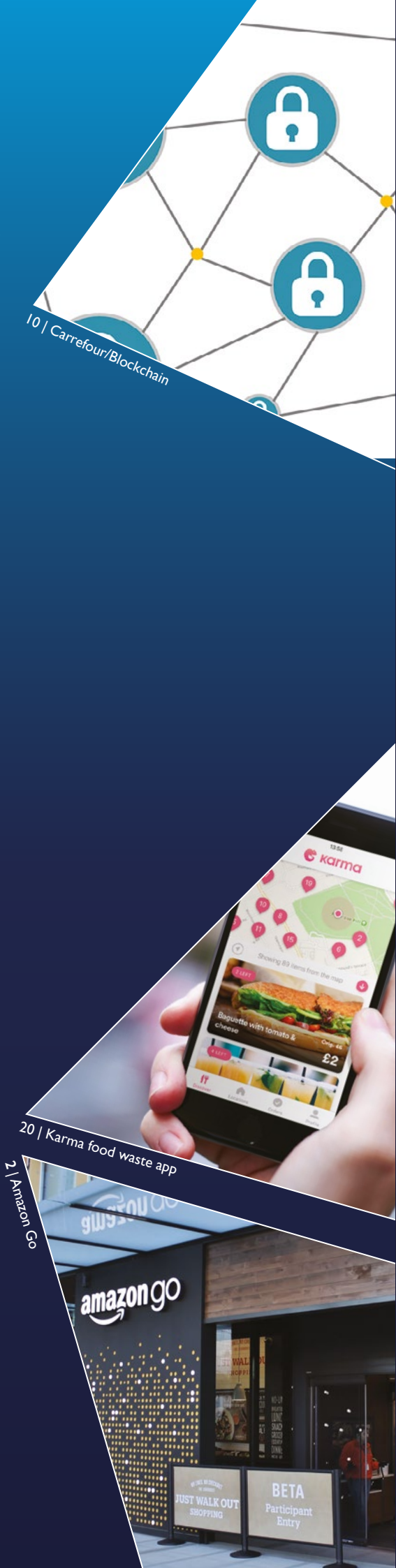
### Retailinsider.com

**Retailinsider.com** is a free-to-subscribe blog/website that aims to adhere to its strap-line of 'Taking a look behind the obvious on the high street, online and in the City'. It's not just another news site but instead offers up a cocktail of opinions and insights on the retail industry along with the occasional leisure sector content to spice up the mix. The regular insights are complemented by a range of carefully selected columnists, and regular slots such as Q&A's with leading e-commerce & multi-channel retailers and the 'Innovative Retailers' series.

For more information please visit **retailinsider.com** or follow **@Retailinsider** on Twitter

### webloyalty

**Webloyalty**

**Webloyalty** is a leading online savings programme provider. We work with over 200 retail and travel businesses internationally to help them build stronger, more profitable relationships with their customers. Through our membership programmes, we help our online retail partners' customers make significant savings each year while providing the partner with an additional revenue stream. As well as incentivising customers to make repeat purchases at the partner's site, they can also earn cashback and get great deals on everything from fashion to electronics to travel at top online stores. Webloyalty started operating in the UK in 2007 and has since expanded into France, Spain, Ireland, Brazil, the Netherlands, Mexico, Belgium and Poland.

For more information, please visit **webloyalty.co.uk** or follow **@WebloyaltyUK** on Twitter

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