



# Digital Retail Innovations 2020

Sponsored by  
 **Webloyalty**



# Contents

## ABOUT

Introduction	03
Advisory panel	05
Methodology	08

## INNOVATION RANKINGS

Top 60 global innovations	09
Top 20 most innovative	29
Top 20 potentially commercial	30
Top 20 most potentially beneficial to consumers	31
Top 20 most influential across the sector	32

# Introduction



It has been far from a normal year but one thing that has continued, and most likely accelerated, is the level of innovation in the industry. Covid-19 has been a driver of new consumer behaviours and the more proactive operators in the retail sector have been busy innovating during the disruption.

Amid this period of unprecedented change it is a great pleasure to bring you the latest annual 'Retail Insider Digital Retail Innovations' report for 2020 that is possibly the most dynamic edition to date. As well as reflecting the impact of Covid-19, it also continues to adhere to its mission of highlighting the most interesting and potentially impactful digitally-driven innovations in the retail industry.

The Top 20 positions in this year's list highlights how Covid-19 has prompted the creation of some entirely new solutions as well as driving existing technologies to pivot and create tools that serve a Covid-19-impacted environment. These include Lost Stock, Sunburst UV Bots, WeChat group buying, Ubamarket in-store app and Chowbotics Vending.

What has also featured prominently this year, and might well have also been driven by the virus, are innovations around food. Specifically with regard to issues of waste reduction, provenance and efficient delivery via online channels. This brings in the likes of this year's top innovation DNANudge along with Ocado vertical farming, Mimica Lab, Accor Hotels with Winnow, and Co-op with Starship Technologies.

This report would not be truly reflective of innovation in the sector if it did not feature Amazon and although this year the global disruptor might not

have quite the same grip on the top of the list as in previous years, it still has its Grocery Stores, Logistics and Zoon division sitting within the top 20.

The innovations in the report have been ranked by an impressive Advisory Panel, with experience drawn from across all fields of retail. This gives the report a robust methodology that provides it with the credibility to ensure it is hopefully viewed as a valuable resource.

Each of the Panel independently scored the 60 innovations in the report across four different criteria – how innovative, how potentially commercial, potential influence across the sector, and potential benefit to consumers – with the results shown in separate ranked tables as well as the main table based on the grand totals.

I would like to thank each member of the Advisory Panel for their vital input into the report. They generously gave up their time and diligently toiled away marking up their scores during a period of extreme heat and Covid-19. I'd also very much like to thank Webloyalty for its ongoing sponsorship of this report and for being such a massively appreciated partner of Retail Insider.

The pace of innovation was already on a fair clip and Covid-19 has certainly cranked up the fervour around new developments. It will, however, be very interesting to see how things kick-on from here in what is a very dynamic environment and we look forward to continuing to highlight this exciting industry and its industrious people.

**Glynn Davis**

Retail Insider / @GlynnDavis



For the seventh year running, Webloyalty has the honour of sponsoring the Retail Insider's Digital Retail Innovations Report. It has long been said that crisis is the mother of invention, therefore we're excited to be celebrating a particularly pivotal year with retail transformations, shaped by the COVID-19 pandemic around cleanliness, food and health.

In the wake of the coronavirus outbreak consumer concerns are focused on the cleanliness of retail outlets, so much so that each business displays a certificate in the window of their store. Therefore, it is no surprise that one of our top ten innovations is the Sunburst UV disinfecting robot, rolled out to eliminate the virus in malls and help customers shop with confidence.

According to the International Food Policy Research Institute (IFPRI), agricultural and food markets are facing continuous disruptions due to labour shortages caused by lockdowns, as well as large shifts in home-shopping food demand, arising from income losses and the closure of schools and restaurants.

With this in mind, we have seen a rising amount of innovations tackle the current food insecurity. This is apparent through inventions like Mimica Lab food waste labels that prolong the life of food past expiration date, Ocado and M&S vertical farming, Winnow food waste cost calculator, and Ubamar-ket's grocery stock checking app.

Along the same vein, the lockdown-led increase in in-home scratch cooking and immunity strengthening sparked a 40% rise in customers choosing healthy foods to provide a varied diet com-

pared to last year, based on research by AHDB/YouGov. This pioneered prominent innovations like DNANudge's DNA-based personalised eating plan and Chowbotics healthy vending machines.

As most of the globe faced lockdown, it is nice to see innovations serving the new 'stay at home culture' to accommodate retail therapy with the likes of virtual fitting rooms, Modiface's virtual salon, and group buying to reduce delivery costs.

It is clear that there are new factors to determine the quality of products this year, we have to ensure products are clean and utilised to their full potential to avoid unnecessary waste. Innovative technology has quickly adapted to this and enabled people to make better and healthier decisions at home.

We'd like to share our gratitude with the industry experts that make up the advisory panel. We're grateful for the time they have spent evaluating the initiatives and drawing up the list. Their insight ensures this report is weighty and truly prophetic in our sector.

We also want to say a huge thanks to Glynn Davis and Retail Insider for the opportunity to be, once again, part of this report.

### **Ben Stirling**

Managing Director, Webloyalty Northern Europe

# Advisory Panel



**Nick Thomas**

Chief digital officer – Holland & Barrett

Nick has been in the post of chief digital officer at Holland & Barrett for the past 12 months and is an integral member of the senior management team that is driving major change at the retailer. His previous roles are steeped in digital transformation and include founding Built/ while at Travis Perkins, e-commerce & multi-channel director at The Works Stores, and founder of family business Cloggs.



**Jacqueline de Rojas**

CBE, president - techUK

As well as being president of both techUK and Digital Leaders Jacqueline holds non-executive roles at Rightmove, Costain and FDM Group. The various awards she has received include a CBE for Services to International Trade in Technology. She also holds advisory positions at Merryck, @accelerate-Her, and the @girlguiding Association.



**Tessa Clarke**

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, financial services and at Dyson. She is also involved with other organisations including Contentive, Unreasonable and HotTopics.ht.



**Tugce Bulut**

Founder & CEO - 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 and an investor in Workinton Co-Working Space.



## Ben Cronin

Partner & go to market lead - John Lewis Partnership Ventures

Ben is a product manager in the John Lewis' Ventures wing leading a cross-functional digital product and operational squad creating experimental new and exciting propositions aimed at the customers of the future. He has a passion for innovation that solves customer problems through repurposing existing business capabilities. Among the products he has taken to market are 'While You're Away from Waitrose' - home delivery where you don't have to be home - and Waitrose 'Wine Tasting at Home'.



## Martin Newman

Founder - The Customer First Group

Martin has more than 25 years experience within the retail sector and currently runs The Customer First Group that champions the consumer. Prior to this he founded leading agency Practicology that was successfully sold to Pattern. He previously held roles including head of e-commerce for both Burberry and Ted Baker. Martin is currently involved with Scout Store, Downyourhighstreet.com, Academy of Robotics, In Kind Direct, Clearpay UK and Yext.



## Miya Knights

Head of industry insight - Eagle Eye Solutions

Miya joined Eagle Eye two years ago and continues to work 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 remains publisher of Retail Technology magazine. She is the co-author of two books.



## 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 the latest industry trends, working with major FMCG companies and retailers. He previously worked at Verdict Research and Euromonitor International.





## Steve Robinson

Non-executive director and consultant

Steve holds a number of positions including founder of We Sell Sleep and Channel Mum and is a venture partner at Downing. Prior to this he held a variety of senior retail roles that 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.



## Olly Chubb

Strategy director - Structure

Olly joined Structure in early 2020 and creates distinctive branding and original propositions for high growth businesses across the digital and technology space. With 15 years' experience working at Portland Design, Mother and Canvas8 he has helped the likes of the BBC, Boots, Diageo, Estee Lauder, Ikea, Nike and Unilever build memorable experiences, craft compelling stories and connect with people in more meaningful ways.



## Paul Wilkinson

Senior product manager for Alexa Shopping - Amazon

Paul joined Amazon in early 2020 to work in its expanding Alexa division after a near decade stint at Tesco where he latterly headed up a team of product managers responsible for the software platforms used for space, range and display decisions at Tesco. This followed his previous role as head of technology research within Tesco Labs that involved finding the best technology in the market to make life easier for Tesco customers and colleagues.

# Methodology

## 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.

From this rich well of knowledge was sourced a variety of digitally-driven innovations that helped build an initial long list of potential constituents of the final report. This was reduced down to 60 innovations from around the world and each one was 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.

In recognition of the importance of the 'How Innovative?' criteria it has this year been given additional weighting. Whereas previously the four criteria each accounted for 25% of the total score, this year 'How Innovative?' accounts for 40% and the other criteria a slightly reduced 20% each.

## 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 and 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?

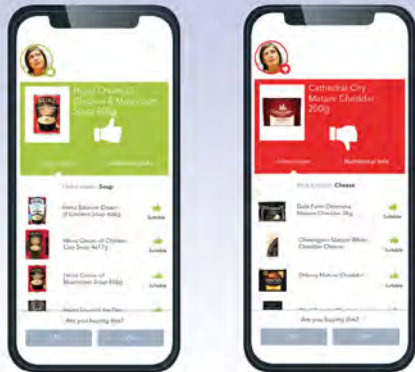
What is the level of impact the innovation is having, or could potentially have, on the retailers using it and possibly on the broader retail sector? What impact could the innovation have as the proposition is built-out and it is possibly adopted more widely in the marketplace?



# Innovation Rankings

Positions from 1st to 60th  
Score out of 880

## 1. DNANudge



800

Already working with Waitrose in London, tech firm **DNANudge** uses simple swabs to give consumers an indication of how they might eat healthier. After shoppers take a DNA test they are given a guide to what they should be eating based on any predisposition to any health conditions. Results come back within an hour of the cheek being swabbed. The overlap of medicine and food is proving popular, as is the completely personalised angle of the service that could culminate in customised meals based on individual dietary requirements. The pilot in Waitrose's Canary Wharf and White City stores allowed those tested to use a DNANudge app or smart wrist band to scan 500,000 different products and see if they were suitable to use in their diet. The band flashes green if yes and red if the item should be avoided and can also recommend swaps that are suitable.

## 2. Amazon Grocery stores



786

**Amazon** continues to build-out its vision for the grocery store of the future with its new concept store in Los Angeles that seeks to knit together physical and digital shopping by acting as a regular store but also including a robotic picking area that services on-line orders. The store will also include new Dash Carts that automatically track a customer's orders through embedded cameras and sensors. They will enable shoppers to automatically pay for the goods and leave the store without going through a checkout. Meanwhile Amazon continues to roll-out its cashierless Go stores and recently began selling the 'Just Walk Out' technology from these stores to other retailers.

## 3. Ocado vertical farms



783

**Ocado** has continued to build out what could its CTO has described as an "integrated food machine". The early stages include the recent formation of a joint-venture with US-based vertical farm business 80 Acres and a stake taken in a UK-based vertical farm Jones Food. By siting such facilities next to Ocado's automated delivery warehouses then fresh produce could be despatched within an hour of picking. When combining this with the automated kitchen capability of Kakuri, in which Ocado has taken a stake, then food preparation/assembly can also be added to the mix for a fully integrated automated food operation.

#### 4. Lost Stock



**Lost Stock** is part sustainable box and part charitable donation that was created out of a concern for the textile workers in the Bangladeshi factories that produce so much of the West's fashion items. During the pandemic they have been largely working towards orders that retailers have then cancelled. Consumers purchase a box for £35 – that contains clothing items worth £70, which were destined for the high street but were cancelled and therefore have no labels or brand data on them. Proceeds from sales of the box go towards supporting a textile worker and their family for a week. The box's contents will be unknown to the purchaser prior to buying, however data on their size, colour and design preferences will be used to inform the contents. As many as 85,000 boxes were sold in the first few weeks of the scheme.

#### 5. Facebook Shops



**Facebook Shops** allows sellers to create digital store fronts on either Facebook or Instagram while allowing sellers to collect valuable shopper data. Sellers can be contacted via WhatsApp, Messenger or Instagram Direct and the transaction undertaken via Facebook Shops and deliveries tracked and questions asked. Similarly, Instagram is expanding its Checkout feature, which allows a user to make a direct in-app purchase. Brands have been added slowly and Instagram is now promoting these brands on its Explore page. By clicking the 'shop' tab on the Explore page users can view a selection of curated product recommendations. Products can also be tagged by influencers in their own feeds taking users direct to buying options.

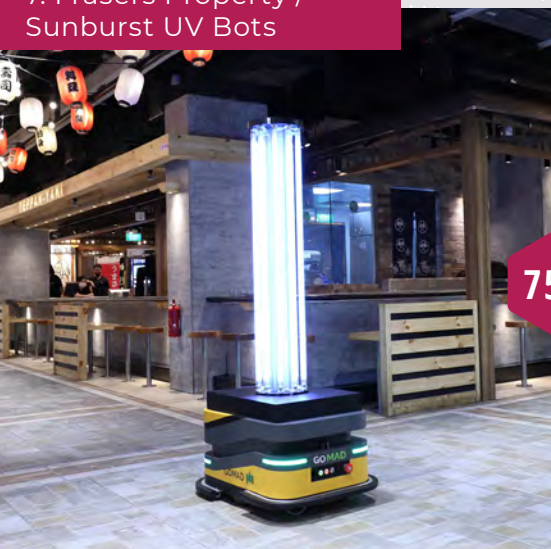
#### 6. Walmart In-store Robots



US giant **Walmart** recently unveiled a new faster automated pick-and-pack grocery line called Alphabot. Working out of a warehouse facility attached to a regular Walmart store the system consists of a number of robots using an advanced shelving system to pack grocery orders 10-times faster than a human worker. Walmart already has plans for several more facilities as the pandemic has pushed up online demand significantly. The trial used around 4,500 grocery items but will eventually rise to 20,000 and increase the number of robots working in each from 30 at the trial to around 50. The robots can move either vertically or horizontally to shift packing bins around the warehouse to waiting shelves where Walmart workers retrieve the completed order when the customer arrives to collect.



### 7. Frasers Property / Sunburst UV Bots



752

To counter Covid-19 and other bacteria Singapore-based mall operator **Fraser's** is rolling-out UV disinfecting robots to its 14 properties that can autonomously move around the malls and decontaminate the environment. The robots were first deployed at its Northpoint City mall in May and can kill around 99% of bacteria and have been clinically proven to eliminate viruses. The robots are guided by light detection and ranging sensors and will be used only when the malls are closed although they can detect if people are too near and will shut off the lamp.

### 8. Amazon logistics



750

Amazon continues to bulk up its logistics capabilities. This includes further progress in the grocery market with its proposed 'Ultra Fast Fresh' solution, which combines **Amazon Fresh** and Prime Now to deliver groceries within the UK. The company will refit nine existing depots so they can pack fresh groceries. The company has also completed a deal with US-based Rivian for 100,000 electric delivery vans as it powers on with its ambition to further reduce its reliance on couriers (it now delivers 50% of its US parcels for example). On top of this Amazon is to add a dozen Boeing jets to its expanding Amazon Air fleet, which work in conjunction with its new last mile delivery facilities in small airports in the US.

### 9. Asos / Zeekit virtual fitting room



748

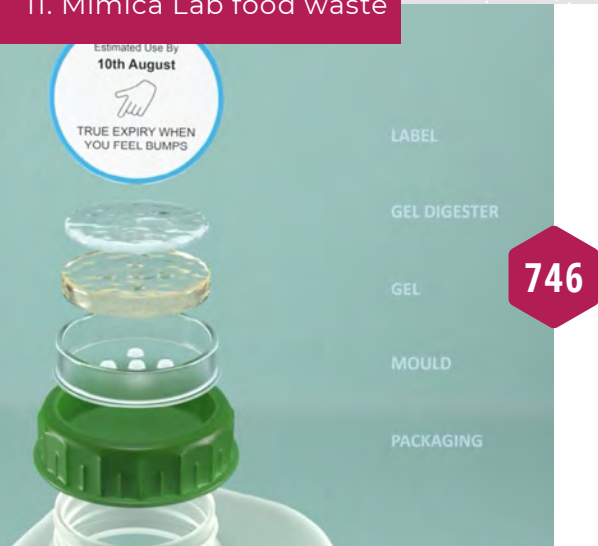
Tech firm **Zeekit**'s virtual fitting rooms have come to the fore since lockdown forbade customers from trying clothes on in-store with most fashion companies hurriedly forced to rethink or modify their online activities. The company went from its normal business to virtually dressing models for clothing catalogues who could not attend their usual **ASOS** photo shoots in photographic studios because of social distancing rules. Zeekit operated a virtual assembly line for Asos – merging images of the human models chosen to appear in the catalogue with images of mannequins wearing the clothes taken in photographic studios. The resulting images are impossible to detect as compilations and have alerted fashion companies to the enormously costly and wasteful studio operations that they run.

10. Lifvs unmanned shop



In Sweden the 14 **Lifvs** unmanned food stores, which were originally thought of as helping consumers in remote places to access goods, have become increasingly popular in the Covid-19 period as more people look to access its 'contactless' contents. Users unlock the shop door via a mobile app, which also enables them to scan the goods. They then pay for them online. The idea has become so popular that the founder hopes to open 80 outlets by the end of the year. Each shop is inspected, restocked and cleaned daily by a manager who is in charge of multiple units. Security cameras are installed and all access to the shop is recorded centrally, with thieves quickly identified through footage and mobile access data.

11. Mimica Lab food waste



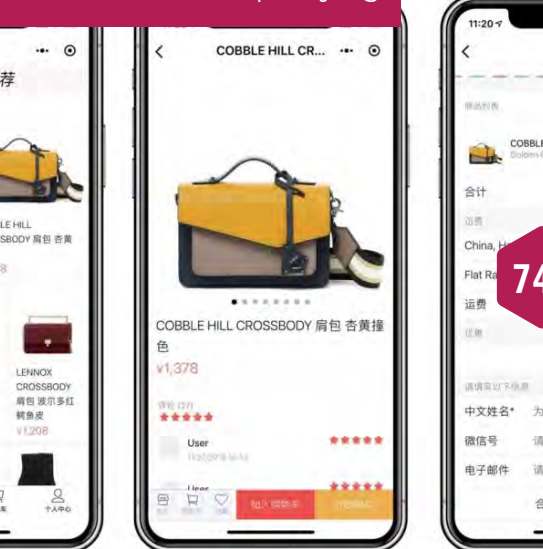
Food waste continues to be a major driver of innovation and **Mimica** has designed a new label that attempts to stop people throwing food away simply because the use-by-date has expired. The textured label requires the user, who is unsure if the goods are good or have gone bad, to rub their finger across it. If the label turns rough to the touch then the food is potentially no longer good to eat but if it remains smooth then indications are it is fine to eat. Apart from the obvious benefits for the visually impaired, the design does away with fairly arbitrary machine-added dates and is very simple to understand. The system works through a temperature-sensitive indicator label or cap which also helps consumers store the food at the right temperature.

12. Chowbotics vending



Contactless vending machines have become very popular during Covid-19, with US firm **Chowbotics** enjoying a huge uplift in demand for its 'Sallys', which robotically make fresh salads. Its ability to personalise meals and keep fresh ingredients has made it a success during the enforced closure of salad bars. Demand has been especially high in hospitals in the US as it can continue to supply fresh food after the cafeterias have stopped operating. The company has recently launched a smartphone app for pre-ordering while its chefs are designing refrigerated breakfast and barbecue bowls that customers can microwave at home.

### 13. WeChat Group buying



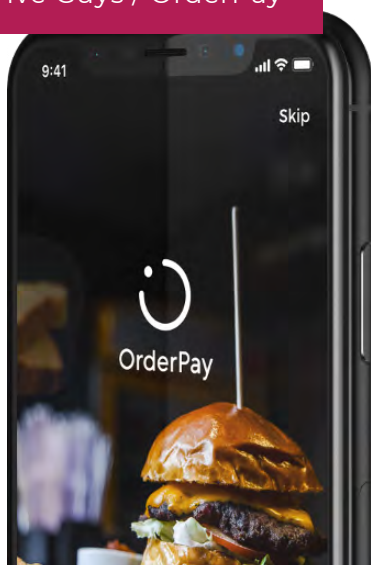
China's demand for group buying has increased exponentially during the Covid-19 crisis. In 2018 300 million people used this function but during lockdown, as supermarkets became increasingly unable to fulfil small orders, the number of people turning to group buying functionality on the country's most popular social media app, doubled. Online group buying can unlock product discounts and reduces delivery costs to the suppliers while also removing middle men from the system. In China a chosen representative of, for example, a residential community receives messages on a **WeChat** group of what the residents would like to buy. The rep then shares links to the products, which residents click on to pay within the group chat.

### 14. Amazon Zoox



**Amazon's** purchase of **Zoox** for over \$1 billion has given Amazon control of a company that was vying to be the first to develop an electric autonomous vehicle and it has some important IP. Zoox has been working on a bi-directional vehicle with no discernible front or back end and no steering wheel, which it was due to begin testing this year. The acquisition is the most serious investment yet from Amazon that has also put money into electric vehicle start-up Rivian – and is all part of its aims to deliver far more of its packages itself. Zoox is developing both hardware and software to create essentially a robot taxi, which would be ordered through a smartphone app.

### 15. Five Guys / OrderPay



Burger chain **Five Guys** is among a growing number of food companies to team up with ordering and payment app **OrderPay**. The app uses beacon technology to locate exactly where a customer is sitting within a restaurant while its 'tap-and-go' functionality allows customers to pay for goods themselves thereby limiting contact with employees. OrderPay also works across all its brand partners by only making the menu visible for the restaurant brand the customer is currently visiting. This means people do not require multiple apps on their phones relating to each of the various restaurant brands.



16. Fuller's / Wagestream



743

Pub and hotel operator **Fuller's** linked-up with **Wagestream** to help its employees keep control of their immediate finances during Covid-19. The company was planning to give its 5,000 employees access to the flexible payments platform but allowing furloughed staff on-demand access to wages they had already earned, instead of at an end-of-month pay day, became a priority as pubs closed in March. Wagestream streamlined its processes so that companies could launch within 24 hours during the pandemic as opposed to the usual three weeks. The system works by giving staff access to a percentage of their accrued pay on any day of the month – including those on furlough.

17. Co-op / Starship Technologies



742

The **Co-op's** ongoing relationship with **Starship Technologies** on robotic deliveries has been expanded again following a doubling of demand through the Covid-19 lockdown. Same day, home deliveries by emission-free robotic vehicles are now available in a further six stores in the Milton Keynes area where the long-term trial has been running since 2018. As well as a rise in the number of customers using the service, the Co-op has reported a four-fold increase in the value of sales. Around 1,000 product lines are available for delivery by the small autonomous vehicles, which stopped and clapped every Thursday evening during the lockdown 'Clap for Carers'.

18. Accor Hotels / Winnow food waste



740

UK-based **Winnow** has developed a high-tech smart dustbin to help restaurants alleviate food waste. Every time a plate of food is tipped into a Winnow smart bin its sensors calculate the extra weight added and a camera takes a snapshot. The AI-powered tech identifies what exactly is the new waste and derives a cost for the item for what has just been binned. By immediately quantifying the cost to the business of the waste restaurants and hotels can begin to identify the source of their problems and kitchens can cook less of what is being routinely thrown away.



### 19. Ubamarket in-store app



737

During the worst of the stockpiling and panic buying seen at the height of the pandemic, innovative shopping app designers **Ubamarket**, brought out a 'know before you go' function in their Scan, Pay, Go app that allowed consumers to check the stocks of hard to get items such as toilet roll, flour, eggs and hand sanitizer thereby avoiding pointless queueing. With one tap users were able to sync into a store's systems meaning stock levels were updated in real-time. The app's existing Sat Nav capability guides people around the store aisles based on their pre-done shopping lists thereby reducing unnecessary contact. Spar and Eurospar are among retailers using a white label version of the app.

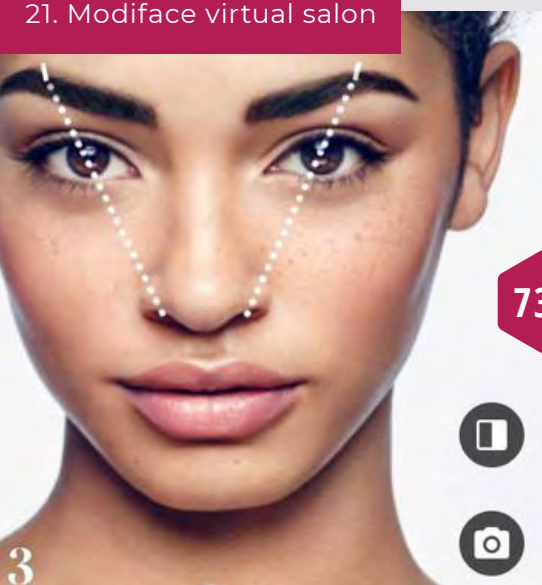
### 20. Tesco / Takeoff Technologies



737

**Tesco** is firing up its earlier plan to open micro-fulfilment centres within some of its stores to enable it to crank up its capability for fulfilling the growing number of online orders, which have dramatically accelerated as a result of Covid-19. The grocer revealed a partnership with **Takeoff Technologies** to help it open the facilities that involve taking 10,000 to 15,000 sq ft of space and incorporating automated, AI-powered robotic elements in order to increase the efficiency of handling online orders. By opening a number of these facilities, in urban areas, Tesco puts its fulfilment point closer to the end-customer thereby reducing delivery times.

### 21. Modiface virtual salon



733

Cosmetic firm **L'Oreal**'s virtual beauty salon **Modiface** saw an upsurge in popularity during the current pandemic as retailers such as Boots and Amazon added it to their own apps and websites to drive sales. Customers use the technology to test out new nail colours, shades of hair dye, as well as foundation tones and have typically spent nine minutes during the lockdown using the salon – up from just two minutes prior to the pandemic. L'Oreal bought the Canadian start up, which uses the front-facing phone camera, in 2018 and has introduced it to its brands including Maybelline and L'Oreal Paris. It works by leveraging AR to reproduce products. The product information and shade calibration is generated through AI analysing brand and social media – provided data.

22. Neste Easy Deli RFID scanning



Finland-based **Neste** has opened the fully automated Easy Deli store, which uses RFID technology to enable customers to have their purchases all scanned in one go at the end of their shopping journey. This can even be done through a bag or backpack – without any visual contact. When shoppers enter the store they sign-in through the app, having pre-registered, and on exit they complete the transaction within the app using Apple Pay, Google Pay or payment card.

23. McDonald's / Apprente voice recognition



Following closely on from its acquisition of Dynamic Yield, **McDonald's** has bought **Apprente** – a conversational, voice-based start-up that enables ordering with multi-lingual, multi-accent and multi-item capabilities. McDonald's is hoping the tech might be incorporated into mobile ordering as well as into its kiosks as well as providing a more efficient service at Drive Thrus. The sound-to-meaning voice assistant can speed up service and ensure the majority of McDonald's customers who never leave their cars only have to repeat their order once.

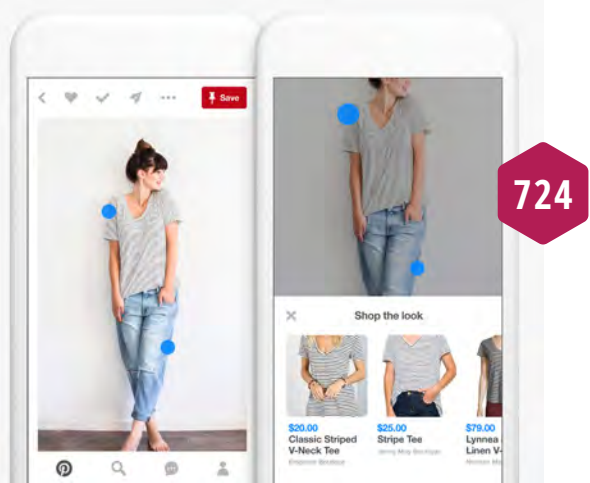
24. Choice Market / Locai Solution Omni-store



US-based **Choice Market** has worked with **Locai Solution** and implemented its Omni-store proposition that has enabled it to create a hybrid store. It combines grocery and in-store dining as well as a delivery capability that involves part of the store being given over to fulfilling online orders of groceries and cooked meals. Using robotic capability and micro-fulfilment capabilities the orders taken online are delivered within 45 minutes. Locai provides customers with the opportunity to choose mobile app, website and self-service in-store kiosk.

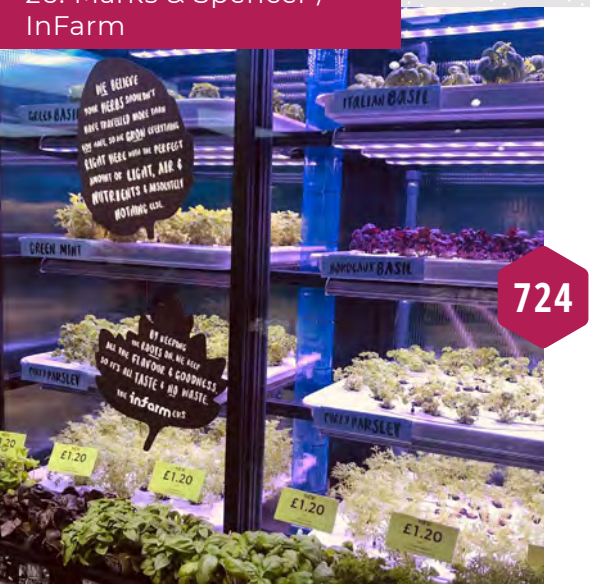


25. Pinterest enhanced shopping capability



As more product searching is undertaken by visual searching, **Pinterest** has launched a 'Shop' tab to allow users to see where they might buy the physical goods they searched for visually. The feature is part of its Lens camera function - which was originally designed for shoppers to snap images in-store and find similar items on Pinterest. However, customers now want to use this function without leaving their homes so the 'shop' tab works by simply uploading any image from the user's phone and providing shopping information for that or similar products. Pinterest has also introduced customised shopping catalogues and a 'Try On' feature, which uses AR technology to enable users to virtually try on lipstick through the Lens function.

26. Marks & Spencer / InFarm



German start-up **InFarm** has secured a major deal with **Marks & Spencer** to provide its herb and salad growing vertical farms to six of its UK stores after a successful pilot in London. The units are remotely monitored for moisture, nutrient and light levels ensuring no staff at M&S need to tend to the plants. The units are only two square metres in size but InFarm claims they can produce as much as 400 square metres of farmland but without the need for fertilizer or pesticides. Data is sent back to the company so it can constantly improve the farm's performance while M&S took stores with the highest fresh herb sales as a driver for its farm locations.

27. Rent the Runway / W Hotels



**Rent the Runway** now offers its on-demand rental service to hotel guests at four **W Hotels** in the US. Guests pay a \$69 rental fee and can choose a number of curated styles to wear during their stay. The clothing offered takes into account the weather, location and activities around the hotel. RTR then delivers the garments to the hotel where they are passed to the guests' room. On leaving the hotel service users simply leave the clothes in the room. The innovation cuts down on packing and carrying luggage while also providing a new wardrobe for the duration of the stay.

### 28. FedEx SameDay Bot



713

**FedEx** is using its Roxo robot device to fulfil last mile deliveries. The on-demand robot, which can climb stairs and drop off packages is being trialled in the US. The courier company has a vast network of client delivery points from the likes of McDonald's and Amazon making it possible that it will become commercially viable to have a large fleet of Roxo's located outside a courier point waiting to deliver packages. Roxo uses a smart wheel system and an array of sensors and is designed to cope with all kinds of terrain. It can also transport hot and cold items.

### 29. Aldi / Occupi crowd control



712

Security company Ocucon rushed out its newest development, **Occupi**, as it realised how important customer control would be post-lockdown. Retailer such as **Aldi** have implemented the traffic light system across the UK that uses technology embedded in door-mounted video cameras to control the flow of customers through its stores. It is capable of marshalling shoppers into groups or using a one in/one out programme and works by automatically opening and shutting shop doors. Its algorithms can also calculate how many people are in a store at any one time making it extremely accurate in assessing whether social distancing rules are being followed. Recent improvements have included functionality to help people with visual and hearing impairments.

### 30. Bloom & Wild / Braze thoughtful marketing



708

Online florist **Bloom & Wild** is behind the 'Thoughtful Marketing Movement' that involves brands committing to offering opt-outs to potentially sensitive content, and providing more tailored messages to customers. Over 100 brands have signed up who might now ask their customers if they would like to opt-out of receiving Mother's Day emails, for instance, as this might be a particularly sensitive time for them. Integral to Bloom & Wild initiating the movement is its customer engagement platform Braze that makes it easy to tailor messages and communication. For the 18,000 Bloom & Wild customers who chose not to receive Mother's Day messages there was no mention of it on the website either.



### 31. AO.com / What3words



Large appliances retailer **AO.com** is now equipping all its drivers with the technology to use **what3words** location finder to enable customers to more easily describe their location. As millions of people do not have traditional street addresses that directly lead to their front door what3words maps the world via three metre squares giving everyone a three-word address for their present location/address. Delivery drivers for AO.com have reported more efficient delivery times especially within rural areas.

### 32. Whirli Toy Library subscription



Tapping into the sustainability model the **Whirli Toy Library** subscription keeps children entertained with a constantly changing set of toys for a monthly subscription fee. Using the four steps: get, play, give, repeat. Whirli offers a variety of subscription packages, which gives parents tokens that can be spent on curating the perfect toy box for their child. The premise aims to relieve parents of the bane of neglected toys and the unsustainable amount of plastic contained in the toys in the average household. Packages range from the starter toy sack to the toy chest recommended for high-end toys which retails at £30 per month. Each delivery and return is priced at a minimum of £3. The company is setting up a reverse credit system whereby parents can donate toys to the range and receive tokens in return.

### 33. Co-op Italy / Q@Home



Technology firm Sopra Steria developed the **Q@Home** app as an online booking system for appointments at shops, to let customers pre-book a time to visit. Initial take-up from retailers was very positive with 600 Italian Co-op stores using it to manage customer flow, adhere to social distancing rules, and giving them a heads-up on customer interest. Sopra Steria is in talks with other UK retailers including the leading supermarkets. Beneficiaries of the Q@Home solution are the vulnerable, people with young children, and key workers on shifts.

### 34. The Hut Group Ingenuity platform



694

**The Hut Group's** white label arm THG Ingenuity is partnering with a growing number of brands including Nestle's Health Sciences division. It provides a fully serviced, global e-commerce platform for it to grow its health products. The proposition includes global fulfilment and payment infrastructure, web hosting and further development, digital marketing components, operations support, data science capability and translation services. It effectively allows Nestle and other brand owners to outsource the entire customer journey from marketing to dispatch, which in turn can access the whole of The Hut Group's vast infrastructure, warehouses, studios and event spaces. The move can allow brands a ready-built DTC model.

### 35. Walmart / Gatik autonomous delivery



689

**Walmart** has teamed up with **Gatik** that focuses on the often overlooked middle-mile of delivery. It is developing an autonomous vehicle solution that moves goods from large distribution centres to small warehouses in urban locations. This will become ever more important as goods are moved closer to the end-customer via hub and spoke arrangements. By using the same routes, at quieter times and avoiding more difficult manoeuvres such as left turns it reduces complexity. New routes take four-to-six weeks to develop although this is reducing. At the moment the vehicles have on-board human back-up drivers.

### 36. MishiPay / Decathlon

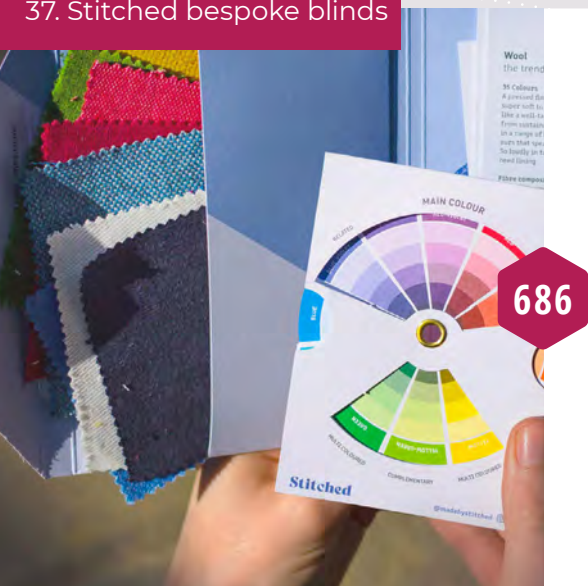


688

**Decathlon** rolled out **MishiPay's** mobile self-checkout across 80-plus stores in Germany this year. The technology allows customers to scan goods as they go round the store, and pay for them using their smartphone. The RFID security tags on the products are also automatically disabled, which leaves shoppers free to exit the store immediately after payment and without the need to contact a member of staff or touch any checkout devices – all of which has been very useful during Covid-19.



37. Stitched bespoke blinds



686

During Covid-19 **Stitched** had to turn its supply chain on its head and instead of using the usual factory it utilised social media to source an army of artisan makers, who had themselves found their customer supply dried up because they could not visit people's houses to design and measure up. The Stitched data-driven customisation model has teamed perfectly with this artisan workforce meaning consumers have been able to buy their personalised and made-to-order blinds through the lockdown. Stitched sends out packs of material and detailed instructions to the end maker and then ships the completed curtains and blinds off to the consumer.

38. Levi's digital samples



685

**Levi's** now produces digital 3D images of its clothing to use as sales samples instead of having to produce physical samples to send and show to merchants. The company hopes this will help drive sales at a time when global buyers are not able to come to the company's headquarters for face-to-face sales meetings. Such has been the positive feedback in terms of time/travel saved in the to-market cycle that Levi's management has suggested the company might never return to live meetings again. Digital images also reduce the carbon footprint by avoiding physically moving samples around.

39. Farmer's Fridge automated fridges



685

On-the-go food firm **Farmer's Fridge** has developed an automated fridge/kiosk which it is placing in high-traffic areas and is stocked daily with fresh food made in the Farmer's Fridge kitchens. The smart fridge knows exactly what is inside, can take orders in advance, remember what individual customers like and take payment. And they are open 24/7 for salads, bowls, sandwiches and breakfast items. Catering especially for busy travellers and out of hours clients the fridges are a big hit in hospitals, airports, universities and office buildings. The computer learning means that all fridges begin to learn what is most popular in their locality, which also cuts down on food waste from the fridges.

#### 40. Voxel51 social distancing tool



685

Customer traffic solution **Voxel51** uses video feeds and modelling algorithms to analyse in-store traffic and social distancing. For retailers the tool can provide an overview of the busy parts of stores and any pressure points allowing them to quickly rectify problem areas without the use of door-counters. For consumers the data can provide information of when the quietest times are to shop in order to minimise exposure to other customers. The images generated pass through several layers of privacy measures to ensure identification of individuals is not possible.

#### 41. John Lewis & Partners Virtual experiences



684

**John Lewis & Partners** has taken its expertise direct into consumers' homes with online customer appointments made available for advice on interior design, baby arrival planning and personal styling. Virtual customer services have been extremely popular with consumers and personal styling for men was a later addition to the suite of services available. Cookery classes and wine tastings are also virtually bookable with a John Lewis partner. Customers have embraced the new possibilities of personally connecting with highly experienced sales staff in a remote shopping world from the comfort of their own homes.

#### 42. Amazon Alexa text-to-speech



682

**Amazon** is working with brands to help them produce custom text-to-speech voices for their **Alexa** skills. This enable the **KFC** Alexa skill to sound like Colonel Sanders. This capability is offered through Amazon's Polly service that turns text into lifelike speech thereby enabling the building of new categories of speech-enabled products. The Polly Text-To-Speech (TTS) service uses deep learning technologies to synthesise natural sounding human speech. Pushing things even further forward Amazon is also testing neural network-based customer service chatbots that could be capable of original dialogue in real-time.

#### 43. Snap Dynamic Ads



**Dynamic Ads** was introduced into the US late last year but is now set for a global roll-out. The technology allows advertisers to create instant adverts through a range of mobile-ready templates, which are then pinged out to **Snap**'s millions of users based on their stated preferences. It saves brands time in having to adapt to Snap's vertical format and simply allows them to synchronise their product catalogue with the Snap platform. The adverts will also reflect real-time information on pricing and availability.

#### 44. Natuzzi / Microsoft VR shopping



Italian furniture group **Natuzzi** teamed up with **Microsoft VR** shopping and tech firm Hevolus when it wanted to increase its business outside of Italy but did not want the expense of constantly shipping its full furniture range around the world. The answer was mixed reality pods where consumers wear a Microsoft HoloLens headset and can view holograms of products as they would appear in their own homes in various shades, patterns and sizes. The solution is cost efficient and consumer-friendly in terms of time taken searching and end-satisfaction. Speed of decision and conversion rates increased dramatically in the pilot units as did staff retention.

#### 45. Etsy AR feature



During the pandemic **Etsy** reported much higher levels of customer shopping for home décor including artwork. To aid decision-making it updated its iOS app using AR features to allow users to virtually place artwork in their own rooms to see how it fits before purchase. As Etsy does not have a standard inventory of items, but rather hosts multiple independent sellers using their own catalogue images, the designers had to use several different technologies and machine learning to allow all images to be used. Once the preferred wall décor has been chosen the user simply moves their phone to the desired wall space and clicks to insert the product into an image of their space.



46. OpenTable shopping slots



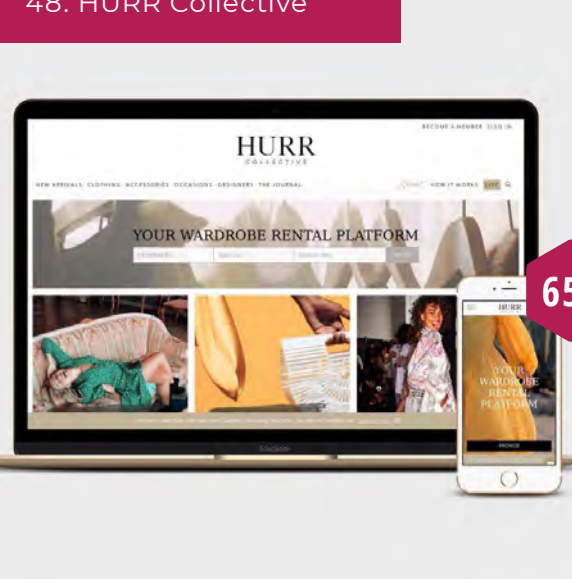
In normal times **OpenTable** lets customers' book tables in restaurants but it has used the pandemic to refigure its services. It now allows access for shoppers to reserve shopping slots instead at supermarkets to help plan for overcrowding. Its new tool lets users choose either a vacant time slot or to join a waiting list at any of the retailers it is working with. This mainly involved restaurants who turned their venues into pop-up food shops for the duration of lockdown, but the tech firm is talking to large grocery chains as well in the hope that the software can also be put to good use for managing socially distanced queuing and in-store footfall.

47. Fujitsu AI hand washing



In the light of strict new food hygiene rules in Japan to combat Covid-19 infection, IT firm **Fujitsu** has designed a vision-based tool that uses deep learning techniques – but does not require large amounts of data - to recognise handwashing gestures. It is envisaged that the solution will reduce the amount of time required for physical observation of employees to ensure they are following the correct hygiene rules. Designers combined hand shape recognition with motion recognition to achieve an accuracy rating of 95%. A display indicates to food handlers that handwashing has been satisfactorily finished. Data is recorded along with timestamps and the duration of the activity.

48. HURR Collective



Focusing on the general unsustainability of the fashion industry **HURR Collective** is the UK's first peer-to-peer rental site. Users rent out their clothes, bags, shoes to other interested parties on demand giving thousands of customers access to a designer wardrobe at a fraction of the cost of purchase. To either lend or rent customers must set up an account with ID verification. Lenders can then upload images and descriptions of their items, accept reservations and organise personal handovers and returns. The company uses real-time identification, geotagging and AI-powered fashion stylists to facilitate all the interactions between users.

#### 49. Starbucks Deep Brew



651

Created in conjunction with Microsoft, **Deep Brew** is an AI-powered initiative from **Starbucks**, which enables employees more time to interact with customers by powering the personalisation engine, optimising staff allocation in busy times, and taking charge of inventory management. Starbucks' technology has also been boosted by it buying a stake in Brightloom (formerly Eatsa), which gives it access to its in-store and mobile ordering systems. Due to the pandemic Starbucks has also expanded the roll-out of its planned Pickup stores that allow for more contactless transactions and are integrated in the Starbucks app thereby allowing remote ordering and avoiding queues.

#### 50. Dexai Robotics kitchen assistant



642

**Dexai Robotics** developed its robotic sous chef after hearing from restaurateurs about the impossibility of hiring employees. The result is Alfred – an AI-powered kitchen assistant that uses robotic arms to manipulate utensils like tongs and ice cream scoops to pick up and serve ingredients. It works through a camera locating and recognising ingredients before working out how to use its arms across different serving pans and then finally it merges the two learnings to prepare dishes. At present Alfred can only prepare food in bowls but the system is being improved so that it will fulfil much more kitchen functionality.

#### 51. Time Out Markets app

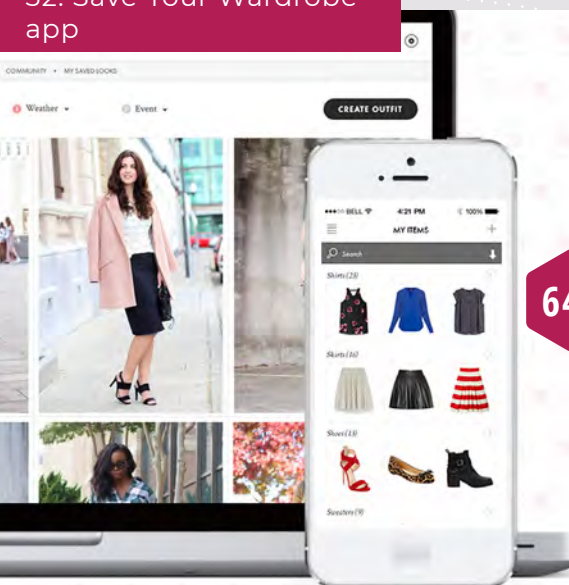


643

**Time Out Markets** has led the way on innovative food hall concepts but after lockdown its large open-plan dining environments have been changed significantly through the introduction of a new app. When footfall comes to within 10% of half capacity the general manager receives an alert so they can then judge how many visitors to allow in to eat at its distanced and partitioned communal tables. This comes in conjunction with other new functionality including the ability for customers to pre-order their food and collect from the stand without having to interact with the staff at all.



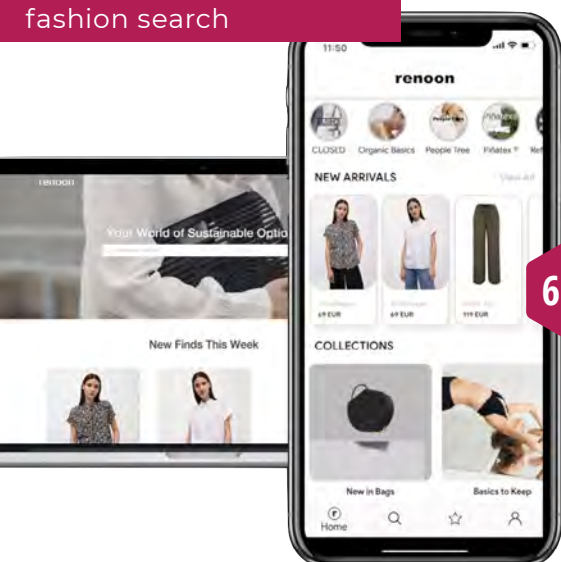
## 52. Save Your Wardrobe app



641

The **SaveYourWardrobe** founders hope that with a digital version of their wardrobe in the app consumers users will have a better idea if they really need another skirt or top or just need to change the colour or mend one of their existing ones. The app aims to make consumers much more aware of their post-purchase behaviour by building a digital picture of a users' wardrobe through purchase receipts and computer vision. The AI capability then alerts the user if perhaps a piece of clothing requires mending or dry cleaning. The app works with partners including dry cleaners and menders, with this 'curated eco-system' of services designed to make the consumer more mindful of their purchases and help them extend the useful lifecycle of individual garments by upcycling or donating if no longer needed.

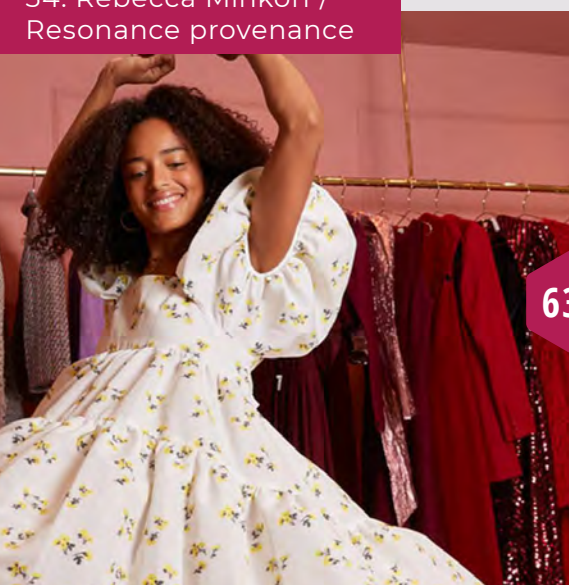
## 53. Renoon Sustainable fashion search



640

Sustainable fashion is a very hot topic but it can be difficult for shoppers to find the relevant sustainable items among the myriad of options available. **Renoon** is a new search platform, available via an app and a website, dedicated to ethical fashion and brings into one location all the sustainable collections from the different brands. The technology uses four selection criteria: product, earth, humanity and future to aggregate tens of thousands of items. The designers hope it will provide an easier alternative for shoppers than opening dozens of different browser windows to find each brand's sustainable edits.

## 54. Rebecca Minkoff / Resonance provenance



639

US designer **Rebecca Minkoff** recently launched a spin off brand Little Minkoff that has blockchain technology built in to ensure products are sustainably and ethically made. Working with start-up Resonance the technology tracks production of the childrenswear range at a Dominican Republic factory giving Rebecca Minkoff the kind of factual data-led oversight of the supply and production chains that most fashion names do not have. Resonance owns the factory, hires the workers and can backtrack all materials as far as the fibres used to manufacture them. Crucially, all these processes are digitised meaning consumers can trace the provenance of any single item.



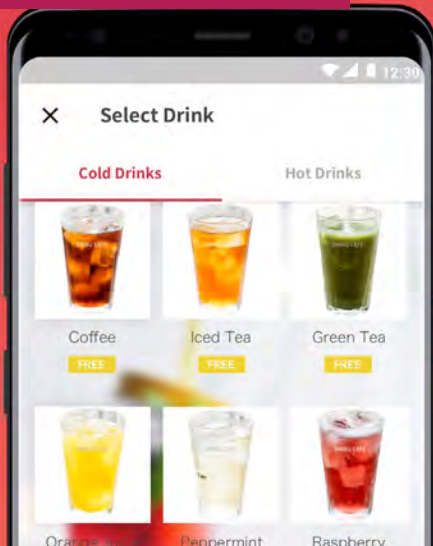
### 55. Panera Bread Curbside Pickup



635

Geofencing technology is allowing US-based **Panera Bread** to know when a customer has arrived to pick-up a kerbside order. As part of the new **Panera Curbside** service when a customer makes an order through the company's app or website they can list the colour, make and registration number of their vehicle. An employee will then be alerted as they drive up and bring the relevant order out to the customer. The new service fits well with the increased desire for contactless transactions as a result of Covid-19.

### 56. Shiru Café



635

Recognising the vast amount of data consumers give away for free can be a source of anxiety and annoyance, Japanese coffee chain **Shiru** which has 21 Asia-based stores and one US-based unit located in a University, has monetised the transaction of data between consumer and retailer. In return for free coffee customers need to pass over personal details including name, birth date and work experience – which is done by an online registration. Customers know they are giving away their details for free coffee and can assess the risks and advantages for themselves. The free coffee is subsidised through the money from corporate sponsors who can then reach potential employees with offers of work. The 'payment for data' model which uses data as currency is increasingly popular.

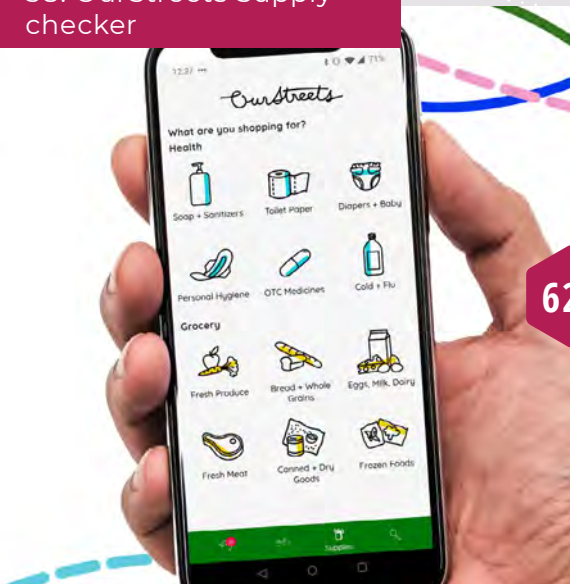
### 57. Vkusvill unmanned stores



643

Russia-based food chain **Vkusvill** bet on the goodwill of human nature during the pandemic to roll-out an unmanned store model that uses no cashiers and instead trusts consumer to scan their goods before they leave. The difference between this and Amazon Go is that there is none of the expensive infrastructure of cameras and sensors involved. Customers simply pay using a credit card machine after choosing their snacks and ready-to-eat meals from fridges and shelves. Vkusvill trialled its 'mini markets' in Moscow in 2019 and at present the 160 units are mainly based in the offices of large corporates but the company is developing a system for the general public which will include some elements of facial recognition to increase security.

58. OurStreets Supply checker



621

The **OurStreets** app was originally designed to record incidents of dangerous driving and poor parking in the US but it was rapidly repurposed during Covid-19 to allow shoppers to record shortages or surpluses of items that had seen increased demand such as cleaning products and flour. The user simply takes a photo, uploads it to the site and answers several questions on whether the store felt safe, which store it was and whether social distancing was in evidence. The site aggregates the data and once there is a critical mass of reports from one area it will publish users' reports in a real-time map both in the app and on the associated website. The app developers hope to work with retailers to notify them of shortages on their shelves quickly.

59. Freitag online workshop



605

Fashion brand **Freitag** has used the pandemic as an opportunity to bring its popular DIY bag workshops online. Usually based in Zurich, where guests visit the factory and production line to oversee the making of their own bag and to physically make some parts of it themselves, the company now allows consumers to transport themselves into the factory. They can undertake a lot of the usual customisation and personalisation with a Freitag staff member over the internet. The self-designed bag is then made up and shipped to the shopper for arrival within a fortnight. The sustainable company, which uses recycled tarpaulins from trucks to construct its bags, will be hoping that its Sweat Yourself workshops could even result in much higher levels of business as it removes the need for travel to Switzerland.

60. Creams stores



601

Pudding parlour **Creams** removed most of its staff/customer contact as it re-introduced customers to its 80-plus stores. Instead of ordering at a counter and the team bringing food to the table, customers now sit at socially distanced tables and order via table-specific QR codes on their mobiles, which are linked to Creams' PoS system. When the order is prepared they are asked to collect the food from long service counters. At periodic intervals an ice cream van jingle will play in-store to alert employees to wash their hands and sanitise all working surfaces.

# 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.

Ocado vertical farms	1
DNANudge	2
Mimica Lab food waste	3
Fuller's / Wagestream	4
Accor Hotels / Winnow food waste	5
Lost Stock	6
Frasers Property / Sunburst UV Bots	7
Co-op / Starship Technologies	8
FedEx SameDay Bot	9
Amazon Zoox	10
Lifvs unmanned shop	11
Choice Market / Locai Solution Omni-store	12
Rent the Runway / W Hotels	13
Chowbotics vending	14
Walmart / Gatik autonomous delivery	15
McDonald's / Apprente voice recognition	16
Marks & Spencer / InFarm	17
AO.com / What3words	18
Asos / Zeekit virtual fitting room	19
Stitched bespoke blinds	20

# 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.

Walmart in-store robots	1
Facebook Shops	2
THG Ingenuity platform	3
Amazon logistics	4
Amazon Grocery stores	5
WeChat Group buying	6
Asos / Zeekit virtual fitting room	7
Modiface virtual salon	8
Lifvs unmanned shop	9
Marks & Spencer / InFarm	10
Amazon Zoox	11
Ocado vertical farms	12
DNANudge	13
Pinterest enhanced shopping capability	14
Snap Dynamic Ads	15
Co-op / Starship Technologies	16
Tesco / Takeoff Technologies	17
McDonald's / Apprente voice recognition	18
Five Guys / OrderPay	19
Walmart / Gatik autonomous delivery	20

# Top 20: Potential Influence

## 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.

Amazon Grocery stores	1
Asos / Zeekit virtual fitting room	2
Facebook Shops	3
Walmart in-store robots	4
Amazon logistics	5
Tesco / Takeoff Technologies	6
Ocado vertical farms	7
Amazon Zoox	8
WeChat Group buying	9
DNANudge	10
Co-op / Starship Technologies	11
Levi's digital samples	12
Marks & Spencer / InFarm	13
Fuller's / Wagestream	14
Neste Easy Deli RFID scanning	15
FedEx SameDay Bot	16
Lifvs unmanned shop	17
Aldi / Occupi crowd control	18
Fraser's Property / Sunburst UV Bots	19
Five Guys / OrderPay	20



# Top 20: Potential Benefit

## 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.

DNANudge	1
Chowbotics vending	2
Lost Stock	3
Ubamarket in-store app	4
Five Guys / OrderPay	5
Mimica Lab food waste	6
WeChat Group buying	7
Rent the Runway / W Hotels	8
Whirli Toy Library subscription	9
Pinterest enhanced shopping capability	10
Amazon Grocery stores	11
Frasers Property / Sunburst UV Bots	12
Modiface virtual salon	13
OpenTable shopping slots	14
Amazon logistics	15
Co-op Italy / Q@Home	16
Neste Easy Deli RFID scanning	17
Choice Market / Locai Solution Omni-store	18
Renoon Sustainable fashion search	19
Facebook Shops	20



## 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](https://retailinsider.com) or follow @Retailinsider on Twitter**

Copyright 2020 by Retailinsider.com. All trademarks, trade names, product names and logos appearing in this report are the property of their respective owners. All rights reserved. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, nor translated into any human or computer language, in any form or by any means, electronic, mechanical, optical, chemical, manual or otherwise, without the prior written consent of Retailinsider.com

## 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](https://webloyalty.co.uk) or follow @WebloyaltyUK on Twitter**



enquiries@webloyalty.co.uk  
@webloyaltyUK  
www.webloyalty.co.uk

