

**Preparing for
tomorrow's supply chain**

The technology shaking up the supply chain

In the first of a new series examining how to get ready for tomorrow's supply chain, **Ben Cooper** investigates the supply chain disruptors keeping retailers on their toes.

Speaking at a major retail logistics event in January, Sainsbury's Argos chief digital and marketing officer Bertrand Bodson made a very telling remark. The company, he said, is becoming "a tech company as much as a retailer".

As little as 10 years ago the idea of Sainsbury's as a tech company would have been difficult to comprehend. But then there are lots of new ideas to get your head around in modern retailing, including a raft of new technology.

Driverless lorries, 3D printing, blockchain technology, open-source systems where retailers share data: new innovations are emerging at a rapid rate, rewriting every rule in the supply chain book.

So how can retailers navigate the mass of new logistics disruptors and, more to the point, how can they harness new technologies cost-effectively to gain that crucial edge?

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Delivery challenge

Arguably the biggest challenge currently facing the logistics sector is how to make deliveries not only more convenient but more profitable. As David Jinks, head of consumer research at courier firm ParcelHero, says, in retail logistics "time is money".

"Consumers increasingly expect same-day and even same-hour deliveries. Consumers now also expect to know where their delivery is currently, exactly when it will arrive and whether they can re-route it 'in flight', he says.

In the next decade we might see driverless trucks in action. Trials are already under way around the world, with companies like Tesla, Uber and Amazon now looking seriously at the technology. There's plenty still to be worked out – not least safety concerns – but with such

huge time efficiencies to be made, there's every chance deliveries of the future will arrive at the hands of a robot.

How packages arrive at the end of the process is contingent on operations behind the scenes being managed to the finest detail. One of the keys to this, says Zalando vice-president for logistics products Jan Bartels, is to have the most up-to-date warehouse management systems (WMS) in place to enable the fastest possible transition of goods.

"Having a customised WMS allows not only a highly efficient process but it is even possible to realise bigger integrations, such as the implementation of a fully automated process with a bag sorter in our 1,400,000 sq ft warehouse in Mönchengladbach, Germany – while a less automated process is running in parallel in the same fulfilment centre," he says.

Once stock is out of the door a whole new challenge begins. Very few retailers manage their entire delivery network themselves and, as a result, thousands of logistics providers are doing a roaring trade, from giants like DHL and DPD, to smaller courier companies and some true fledgling innovators like ToBoot, which will drop packages directly in shoppers' car boots.

There are abundant solutions available but, retailers won't need to be told, each involves relinquishing a degree of control. Once the stock is out of your hands there are plenty of things that could still go wrong.

But Alan Holland, business unit director at Segro, says there are ways that retailers can keep control and where technology can play



SOURCE: SHUTTERSTOCK

This is the first in a four-part series of analysis on the future of retail's supply chain. To read more on this topic visit Retail-week.com/SupplyChain



another vital role. "There is a lot of inventory knocking about the system not in retailers' hands," he says. "We've got to face the way we are dealing with that. There are things in the process lines which can be improved such as cross-docking. Retailers need to use these new systems to get that operational advantage."

Smart solutions

With retailers like Zalando advancing at a phenomenal rate and serving a disparate and varied shopper base, some very smart solutions are needed to keep the whole thing flowing. Cue another major disruptor: artificial intelligence (AI).

Bartels says: "To allocate our items efficiently, we need to know today what Italian, French or Swedish customers will need tomorrow. With machine learning we are able to forecast market needs and allocate products in a reliable way."

And then there's the concept of removing the delivery process altogether. It's already perfectly conceivable – many say inevitable – that instead of a 'delivery' being brought to your door, it will arrive digitally, to your 3D printer which will actually make the item there and then.

AI and 3D printing are two solutions – among a whole cornucopia of headline-grabbing gadgets typified by Amazon's drones. But as is so often the case with logistics, one of the most valuable commodities of all is simply good data. It's become one of the most useful

things a retailer can draw on to understand their shoppers, so it should be one of a business's most closely guarded secrets.

Or is it? Another nascent trend in logistics is the concept of 'open' systems; huge collaborative databanks into which retailers and third-party logistics firms contribute and extract vast quantities of customer information.

Another technology that relies on collaboration is also tipped to transform retail logistics – blockchain. In short, blockchains enable parties – such as retailers and shoppers – to transact online quickly, securely and directly, bypassing traditional fee-charging third-party intermediaries such as banks.

It may be a long way off mainstream use, however, more forward-thinking retailers are considering using the technology.

Blockchains fit with one of the internet's core paradigms, that power, in this case over transactions, can always be decentralised and shared.

With third parties out of the picture, the savings on retailers' bottom lines could be immense.

Whether it's Adidas's ecommerce app aimed at trendy 20-somethings, Screwfix's slick multichannel trades service or the bold steps that Dixons Carphone has made with its multi-brand stores, it's behind the scenes, in the supply chain, where retail operations can be made or broken. Cue the age of the innovators and the disruptors with the answers.

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**Katie Vickery,
partner, Osborne
Clarke UK**

"Disruptors are revolutionising the supply chain and retailers who embrace the new technology may gain a crucial edge over their competitors. A good example is 3D printing.

"Retailers are excited about its potential, not only as part of a comprehensive supply chain but also as a means to provide customers with bespoke products quickly. With 3D printing, the supply chain alters so the printer becomes the manufacturing source. The actual printing could occur in store, a distribution depot or even the customer's home.

"However, retailers need to be wary that printing a design file sourced from a third party may mean unwittingly taking on product compliance obligations, by becoming the designated "manufacturer" or "importer", that may not have applied if the third party had supplied the actual goods.

"It is important from a quality and safety perspective that the printed product is viable. But design files can be defective or there could be an error in the printing itself. While software is being developed to help identify such defects, quality and risk teams need to think about new ways of meeting product safety requirements and, for certain products, CE-marking requirements.

"Regulation will be behind the advancement in this technology, but that should not hold retailers back. Businesses can apply existing product safety principles and intellectual property law to develop the compliance systems needed to support innovation in this area."