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Real value in a changing world

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A new logistics real estate landscape

The impact of multi-channel retail on logistics

Key take-aways

- The growth in online retail sales will drive significant new demand for logistics real estate.
- This demand will require a variety of different types of logistics facilities, including fulfilment centres, sortation centres, cross-dock facilities and processing centres for returned items. There will also be growing demand for collection points, including lockers, to service click-and-collect.
- While traditional bricks and mortar retail will remain a more significant driver of aggregate logistics real estate demand than online in the medium-term, online will be a more dynamic driver of change.
- In mature retail markets, the growth in logistics real estate demand driven by e-fulfilment could be off-set by some weakening in demand related to supplying physical store portfolios.
- In less developed retail markets, logistics real estate demand will be driven by both an expanding retail property stock and growing online sales.
- Multi-channel retail will increasingly evolve into omni-channel retail to provide a fully integrated seamless customer shopping experience. With omni-channel the role of shops and warehouses will become blurred.
- Retailers, parcel operators and logistics companies along with developers and investors need to stay ahead of the curve and be responsive to this change in order to optimise their respective strategies and get best value from their logistics real estate from an operational or financial return perspective.
- Retailers need to embrace multi-channel and work towards delivering a fully integrated omni-channel shopping experience for consumers.
- Developers need to focus on acquiring appropriate sites and building up strong relationships with key retailers, logistics companies and parcel operators.
- Investors need to understand how online and multi-channel supply chains work in order to understand the function of the warehouses that support these and what this means for specification, location and investment performance prospects.

Introduction: multi-channel retail = multi-channel logistics

The growth of online retail is transforming the way consumers shop, not least by generating multiple channels through which they can research products and make purchases. At the same time, it has has added significant complexity to the logistics operations of retailers.

Instead of the relatively uncomplicated process of replenishing high street stores, multi-channel retailing is giving rise to multiple channels of distribution to service a huge range of destination points, as consumers can choose to shop at stores, order goods for home delivery or click-and-collect, and return purchased items that they do not want. The fact that the fulfilment of online orders involves delivering single items as opposed to larger bulk orders for stores adds another layer of complexity.

From a different perspective, the growth of multi-channel represents a further change in retail supply chains, which over the past 30 years have seen the 'balance of power' shift from manufacturers to retailers to consumers. In this process, the supply chain has changed from a 'push' supply chain, in which manufacturers produced goods for retailers to sell, to a 'pull' demand chain, driven by consumer demand.

With consumers very much in control and becoming ever more demanding in their expectations, logistics is becoming critical to delivering the best multi-channel customer service. At present, many retailers are grappling with what this change will mean for their business, their retail portfolios, their logistics operations and their warehouse requirements. Understanding this 'new normal' and how to deliver improved customer service at lower costs will be key to retailer profitability - a huge challenge but a huge opportunity for retailers that get it right.

Amid this uncertainty, one thing seems certain. Multi-channel retail is here to stay, and it is going to drive significant change in logistics and logistics real estate markets.

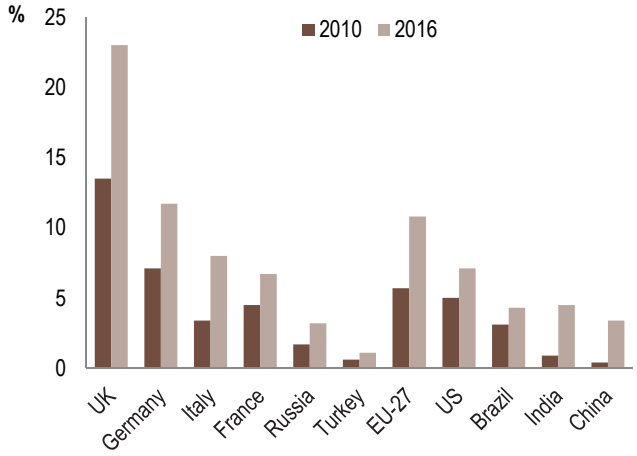
This white paper is structured to address a number of key questions:

- What are the evolving logistics models to service the growing volume of online orders?
- What types of logistics real estate are being demanded by retailers and others to meet this growth?
- What does multi-channel mean for investors in logistics real estate?
- What are the key potential future trends?
- What are the implications for retailers, other real estate occupiers, developers and investors?

What are the evolving logistics models?

The current significance of online retail varies widely across Europe. The UK is the most developed market, with around 12% of all retail sales accounted for by online, followed by Germany, with France slightly less developed. In total, these three countries account for an estimated 71% of total European online sales, with online retail being much less developed in Southern European countries and Central and Eastern Europe (CEE).[1] However, all indicators and forecasts show online retail is growing rapidly, with the highest growth rates expected in these less developed markets.

Online retail sales as a percentage of total retail sales



Source: The Boston Consulting Group

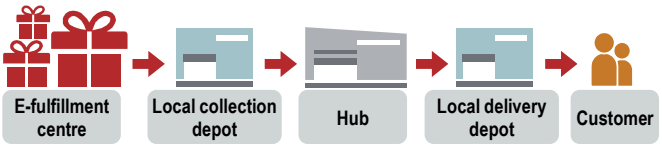
From a logistics real estate perspective, the growth of online retail is generating new demand for a range of different warehouses including fulfilment centres, sortation centres, cross-dock facilities and processing centres for returned items. In some cases, the collection points for click-and-collect are also warehouses, although this is not usually the case. This demand is generating opportunities for new development and investment.

To date the most obvious source of logistics real estate demand related to e-fulfilment has come from pure-play, online only, retailers such as Amazon, Zalando and ASOS, as many bricks and mortar retailers have started servicing their online sales from their existing distribution networks. However, this will change as online sales gather pace and retailers start to acquire dedicated facilities.

At present, different logistics models have been developed for three broad categories of products, namely: non-food retail items delivered to customers via a parcel network; large non-food items which are too big to be handled by a parcel network; and food retail.

In non-food retail, a retailer typically stores and picks items from a dedicatedfulfilment centre and then distributes its orders through the hub-and-spoke network of a parcel carrier. In this system, an order can pass through three to four different warehouses on its journey from the retailer's e-fulfilment centre to consumer.

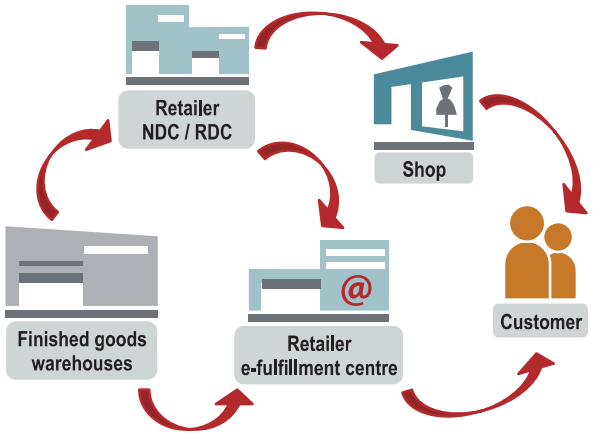
The path of a parcel - involving four warehouses



For non-food items that are too large to go through a parcel network, retailers usually service these orders alongside other retail operations from their existing distribution network. However, they may also set up dedicated facilities, as John Lewis has done at Enfield, north London and at Avonmouth, Bristol (both of which are c. 8,000 sq m facilities).

The logistics models for online food retail vary quite significantly. Some retailers pick online orders from stores, some pick exclusively from dedicated e-fulfilment facilities and some use a hybrid model, involving dedicated e-fulfilment facilities around major population centres and picking from stores elsewhere.

Different models for online food retail



[1] Centre for Retail Research, Online Retailing: Britain and Europe 2012

One area which is growing significantly is **click-and-collect.** For example, in the UK, 70% of Tesco's online general merchandise orders are handled in this way and it is also increasing this offer for its online grocery service.[2]

Click-and-collect can pose logistical challenges for both pure-play and bricks and mortar retailers. As the former do not have a store network, many of these retailers have entered into alliances with small convenience retailers or post offices to offer collection points, or have set up collection lockers in different locations, such as in shopping centres, on industrial estates or at railway stations. For example, Land Securities provided the UK debut for an Amazon collection point at its One New Change shopping centre in the City of London in 2011.

Whilst bricks and mortar retailers have the advantage of a store network from which to offer collection, the delivery of individually picked items to a store can be more complex than home delivery. In some cases, for example, items that are individually picked at an e-fulfilment centre are transported first to the distribution centre that replenishes the specified store rather than sent to the store direct. Collection points are not generally warehouses, although there are some instances where they are. For example, John Lewis has opened a warehouse which fulfils this role in Exeter in south west England.

Another dimension which is particularly significant with online purchases is the high level of returns for certain types of products. In the case of fashion retail, for example, the level of returns is often estimated at around 30% of purchases, and these reverse flows all have to be handled by the retailer, or its chosen logistics contractors. Returns can significantly impact cash flow and the retailer's margin as all returned items need to be inspected. Ideally, after inspection, items can be placed back into stock for re-sale as quickly as possible.

Given this aim, there is a usually a strong rationale for integrating the returns processing in the e-fulfilment centre, as this will facilitate a more efficient and lower cost way of getting returned items back into stock for re-sale. As a result, many e-fulfilment centres encompass a separate returns processing area, often on a mezzanine floor. Alternatively, a retailer may have a separate warehouse facility for processing returns, which could be operated in-house or outsourced on either a dedicated or shared user basis.

[2] Tesco, Annual Review and Summary Financial Statement 2012

What types of logistics real estate are being demanded?

It is clear that the rise of multi-channel retail is creating growing demand for a range of logistics facilities, and in a number of instances these have different specifications and location attributes compared with retailer warehouses that are designed and located to replenish stores. This is particularly the case with the very large e-fulfilment centres, the sortation centres of the parcel operators and the food retail fulfilment centres. As a result, a new order of logistics properties is emerging, which will drive change in occupier, developer and investment markets alike.

In many cases these facilities are located in and around urban areas. In this respect, there is a clear link between the rise of multi-channel retail and urban, or city, logistics, a subject we will return to in a subsequent white paper.

E-fulfilment centres

The e-fulfilment centres where merchandise is stored and picked at an item level prior to distribution via a parcel network are often huge facilities, far larger than the average size of retailer warehouses. Although these are sometimes speculatively developed buildings, as has been the case for example with some of Amazon's facilities in the UK, more often than not the required scale tends to make them built to suit. As examples, Amazon has a number of facilities in Europe of 100,000 sq m or over, whilst Zalando's Erfurt facility in Germany is 128,000 sq m.

Reflecting their scale, and the intensity of the labour operation involved in picking individual items, these centres typically employ hundreds of workers, which can easily double during peak periods. Amazon's Dunfermline facility in Scotland, its largest in the UK (92,300 sq m), employs some 750 permanent staff and up to 1,500 temporary staff during the Christmas peak.

Order picking is the most labour and cost intensive warehouse process and very challenging to automate. However, as a recent news article on Net-A-Porter, the high end online fashion retailer, highlights it can dramatically increase the speed and accuracy of picking. The introduction of robot pickers at the retailer's south London fulfilment centre has made the overall pick rate some 500% faster.[3]

With Amazon paying $775 million last year to acquire Kiva Systems, which manufactures robots, automation is an area that will increase in the future.

Kiva Systems and robots in warehouses

In the increasingly competitive world of multi-channel retail, automation of fulfilment operations can reduce costs, improve productivity and significantly enhance customer service.

One example is the Kiva Systems material handling solution, which uses a fleet of mobile robots to move moveable shelves to workers, giving every worker full access to all stock keeping units.

This system can improve shipment and order accuracy and the overall customer experience. As a result, the warehouse, and how it operates, becomes a key source of competitive advantage for retailers – once again highlighting the crictal importance of logistics.

From a location perspective, the key drivers for e-fulfilment centres are often different from the standard 'centre of gravity' considerations that drive the location decisions for warehouses that service stores. First, the scale and labour supply requirement of these fulfilment centres have often led retailers to locate them in non-core distribution locations, where they can access large sites, a sizeable and competitive labour force and potentially grant assistance.

Second, proximity to a parcel hub is a key location consideration for these centres, as this enables the retailer to offer late order cut off times to customers. Most major retailers have preferred parcel carriers, and going forward we will see increased co-operation between retailers and parcel network operators, with the latter also offering a wider range of services including collection points and returns handling. For example, Hermes already does this.

For retailers importing significant amounts of products, there may be a rationale in locating an e-fulfilment centre at its main port. However, one barrier to this approach could be the sheer scale of

[3] BBC News Business. Logistics: Rise of the warehouse robots

these centres, which stands in contrast to the space available in many of Europe's main port locations.

With order delivery time considered a key differentiator among retailers, demand for smaller e-fulfilment centres close to major population centres to offer same day delivery will increase. Whilst these smaller centres may not be able to hold a full range of stock they could also cross-dock orders dispatched from a larger fulfilment centre. In the UK, Amazon recently announced a requirement for around 20 warehouses between 5,000 sq m and 10,000 sq m around the UK's main urban areas, to accommodate demand for same day delivery.

Parcel hubs - sortation centres

Parcel hubs are typically specialist warehouse facilities designed to facilitate rapid throughflow, as opposed to storage. These networks are organised as hub-and-spoke systems, where the main hub functions as a sortation centre, receiving orders from local spokes, sorting them by end destination and dispatching them to appropriate local spokes for onward delivery. These sortation centres are typically long, thin, low rise warehouses, with docks along two elevations and large external yards, and are often between 10,000 sq m and 20,000 sq m in size. The process of sortation is usually highly automated.

The local spokes which acts as points for local collection and delivery are similar in specification to the hub sortation centres, although smaller in size, at around 5,000 sq m.

From a location perspective, local parcel spokes require good proximity to major population centres for final delivery, and hence are typically found in, and on the edge of, major urban areas. The demand for these facilities, and the large sortation centres, is increasing significantly in line with the growth in parcel volumes, representing an important opportunity for new development.

Food retail facilities

The e-fulfilment centres for food retail are generally specialist buildings that are mostly built to suit for specific retailers. Often referred to as 'dark stores', these are typically located close to major population centres in order to undertake home delivery or delivery to collection points.

As noted earlier, there is no single model for picking online food orders, but as volumes increase it is likely that there will be a shift from picking from stores to dedicated fulfilment centres. In the UK, for example, Tesco.com, which started its online service by picking from stores, is now developing its sixth dot.com centre in or around London, having opened its first facility in Croydon. The way in which these facilities have evolved, illustrates the speed of change in this concept and it's impact on property specification.

Tesco.com's first facility at Croydon, which opened in 2006, was an existing secondhand warehouse, which was fitted out like a store with picking done manually. Its five subsequent dot.com centres, which are all around 12,000 sq m, are all built to suit facilities and all are highly automated and mechanised fulfilment centres. Indeed, according to Tesco its latest facility under construction at Erith, south east London, 'will be the most automated dot.com warehouse to date meaning that staff will be able to fulfil a higher number of orders more quickly and efficiently than ever before.'[4] Tesco is seeking to roll-out further dark stores to service other cities, including Birmingham and Manchester.

In the Netherlands, Albert.nl, the internet home delivery channel of Albert Heijn, the largest grocery chain in the country has followed a similar path to Tesco. It started by picking orders from stores, but now has three fulfilment centres in operation, which it refers to as 'home shopping centres' - at Rotterdam, De Meern (near Utrecht) and Almere (near Amsterdam). Each of these centres were specifically developed for Albert.nl. Albert.nl is able to service some 60% of Dutch households from these centres, including via transhipment centres, where deliveries are transferred from large trucks to smaller delivery vans.

Whilst often highly mechanised, these facilities are also typically very labour intensive because individual items are still picked manually.

[4] 'Tesco builds sixth dot-com warehouse' www.logisticsmanager.com December 2012

What does this mean for investors?

Investors need to track how multi-channel supply chains work in order to understand the function of the warehouses that support these and what this means for specification, location and investment performance prospects.

As multi-channel retail grows, investor understanding of, and interest in, the logistics buildings that support this has increased. Indeed, in general, many investors are favourably disposed to these facilities as the trends driving continuing online growth are seen to be strong. However, that said, the usual investment criteria apply with covenant strength, lease length and structure, building specification and lot size, and location all being key factors influencing investor demand.

Investors are becoming increasingly comfortable with some of the key building features of large e-fulfilment centres, even though they are typically built to suit, but issues such as lot size and location may raise concerns about liquidity. This is particularly relevant with the mega centres, which may have lot sizes of over €60 million and which are often located in relatively decentralised (often non-core) locations, due to the size of land plot they require, cost and labour supply considerations. By contrast, investor demand is generally deeper for mid-range lot sizes.

The main sortation centres and local parcel spokes are also becoming more attractive to investors, provided they are well-located close to city centres, ports, airports and key motorway junctions. As understanding of the function and role of these facilities increases, investors have become more familiar with some of the specific issues associated with these buildings, such as the higher rents than standard warehouses (largely due to higher build costs, high land cost if they are in an urban centre and their lower site density). Indeed, where these facilities are in, and on the edge of, major urban areas they are often considered to be supported by two growth stories, one related to the growth of online retail and the other by rising interest in the related, but wider, issue of urban logistics.

Dedicated food fulfilment centres are comparatively rare, but in the UK the Tesco facilities have proved extremely attractive where they have come to the market due to covenant strength and lease length.

What are the key potential future trends?

Online retail is still at an early stage of development, but all independent forecasts point to strong growth. Given this outlook and how logistics models and operations have evolved to date, our key predictions for the next 10 years are:

- The growth in online retail sales will lead to significant new demand for logistics real estate.
- Traditional bricks and mortar retail will remain a more significant driver of aggregate logistics real estate demand than online, but online will be a more significant driver of change.
- In mature retail markets, the growth in logistics real estate driven by e-fulfilment could be off-set by some weakening of logistics real estate demand related to physical store portfolios.
- Multi-channel retail will increasingly evolve into omni-channel retail to provide a fully integrated seamless customer shopping experience. With omni-channel the role of shops and warehouses will become blurred.
- The level of automation will increase in e-fulfilment centres but labour requirements will generally remain high.

New logistics property demand

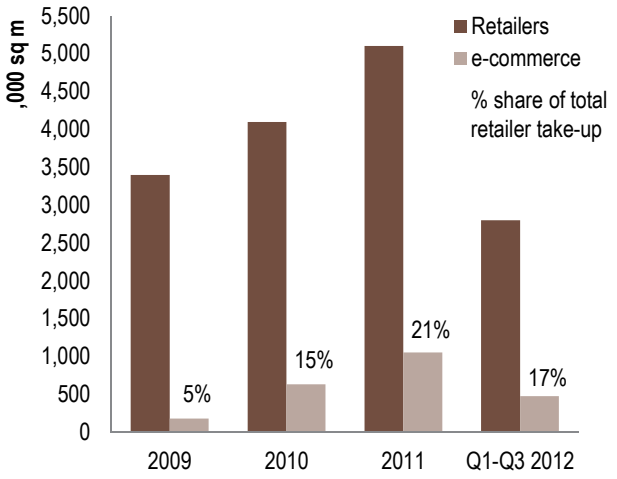
Retailers are a key source of demand for large logistics facilities, but to date demand directly related to online sales has been relatively modest. Between Q1 2009 and Q3 2012 inclusive, retailers directly accounted for some 35% of all logistics property taken-up across Europe, with that purely dedicated to online retail representing some 15% of all take-up by retailers, or 5% of all take-up.[5]

The further growth of online retail, coupled with an increasing drive to reduce order delivery times, will lead to a significant increase in demand for logistics facilities including large and smaller e-fulfilment centres, sortation centres and parcel hubs / spokes and online food 'dark stores'.

In addition, in the future we could see demand for shared user consolidation centres in and around major urban areas to consolidate home deliveries. A number of urban consolidation centres have already been established in various locations across Europe to consolidate deliveries for retail store replenishment, notably to major shopping centres, high streets or airports, although these are still relatively few and far between. The challenge of providing an excellent customer service for online orders whilst containing costs could encourage retailers to look at shared user consolidation centres for home delivery.

It is also likely that there will be some increased demand for returns processing centres, although as noted earlier this function is often incorporated into e-fulfilment centres. In addition, as new technology, such as body scanners, becomes more widely used to support online fashion purchases, it is possible that the level of returns in this market, which are particularly high, will reduce.

Retail and e-commerce logistics take-up

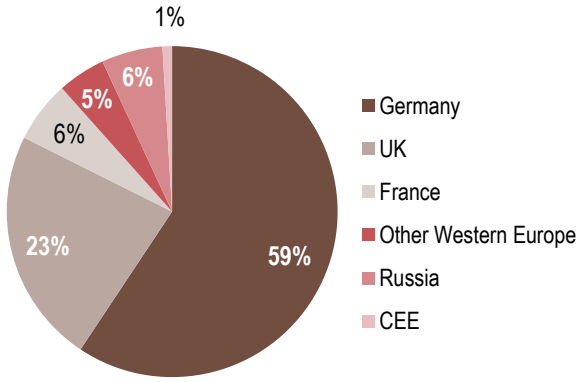


Source: Jones Lang LaSalle

[5] Jones Lang LaSalle data covering Belgium, Czech Republic, France, Germany, Hungary, Italy, the Netherlands, Poland, Russia, Spain and UK Grade units of 5,000 sqma d over (10,000 sq m + in UK) These figures are, however, likely to under-estimate the significance of retailers and online retail respectively, because in the first case take-up attributable to logistics companies, which may act on behalf of retailers, is excluded while in the second case we did not identify the function of every retailer warehouse taken-up.

How much e-fulfilment-related warehouse demand will be generated is clearly dependent on how fast online sales will grow and the logistics strategies adopted by retailers to fulfil these orders. Although predictions vary, they all point to strong growth over medium-term forecast horizons. For example, the Boston Consulting Group (BCG) forecasts online retail sales growth of 14.5% pa for the EU-27 countries over the six years 2011-2016, with the share of total retail sales accounted for online rising from 5.7% to 10.8%. Forrester Research predicts growth of 12.2% pa over the five years 2012-2016 for 17 EU countries.[6] These rates of growth far exceed those anticipated for offline retail.

E-commerce logistics take-up by geography 2009 – Q3 2012



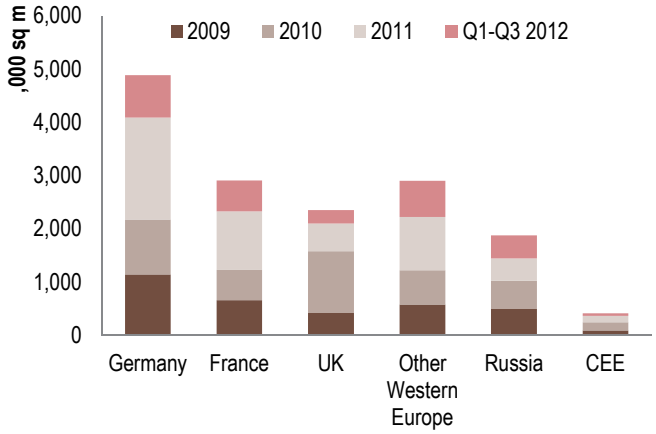
Source: Jones Lang LaSalle

Based on past take-up rates of Grade A logistics facilities by retailers across the major European logistics real estate markets and the outlook for retail sales and wider economic activity, we predict that the total level of logistics take-up by retailers will average around 5 million sq m per annum over the five years (2013-2017). Having regard to forecasts of online sales growth, we assume that online sales for this market geography will account for around 12% of total sales by 2017. If the total predicted take-up of logistics real estate by retailers is disaggregated to reflect this share, then over this five-year period that driven by e-fulfilment would total c 3 million sq m and that driven by store replenishment would total c 22 million sq m.

Traditional bricks and mortar will continue to drive aggregate logistics real estate demand, but online will drive change

Whilst forecasts show online retail growing strongly, across Europe as a whole, online sales are still expected to be a relatively modest share of total retail sales in the medium-term with online making the most significant contribution to total sales in the UK, at around 23% of the total (2016). Given this, it is likely that over a 10-year horizon, offline sales will still significanty exceed online sales, despite a much weaker growth outlook. As a result, the replenishment of physical store networks will remain a more important driver of aggregate logistics real estate demand than the growth of online, although the later will generate more change. The continuing supremacy of physical retail and store replenishment as a driver of demand is highlighted in our simple disaggregated forecast of retailer take-up over the next five years.

Retailer logistics take-up by geography



Source: Jones Lang LaSalle

Impact on logistics real estate requirements to service store portfolios

The growth of online sales will occur partly at the expense of offline sales. In markets, such as the UK, where online retail is relatively advanced and retail markets are generally mature, the total amount of physical retail space could stablise or contract. In this situation, the growth in demand for logistics facilities related to growing online sales could be partly offset by a lower level of demand for warehousing required to service a smaller stock of physical retail space. However, in relatively immature retail markets where physical retail floorspace is expanding, such as Central and Eastern Europe, the demand for logistics floorspace linked to physical stores will continue to grow.

[6] The Boston Consulting Group, The $4.2 Trillion Opportunity, March 2012. Forrester Research, European Online Retail Forecasts: 2011 to 2016, February 2012.

From multi-channel to omni-channel – the blurring of shops and warehouses

In the future we will also see a gradual evolution from multi-channel to omni-channel retail, with retailers merging their online and physical retailing to provide a fully integrated and seamless customer experience.

With omni-channel, there is a sense in which the role of warehouses and stores become blurred around the edges as customer orders may be fulfiled from the most appropriate location, be it a warehouse or a store.

In some cases multi-channel retailers could convert existing space in their retail portfolios to fulfil online orders. For example, Macy's, the department store chain in the US, is converting nearly 300 stores out of it 800 + national network to include additional storerooms for local order fulfilment.

This omni-channel approach requires a fully integrated inventory management system which gives full transpancy of a retailer's inventory so that it forms a single 'pool' wherever it is located.

Where this is implemented, it could moderate requirements for dedicated logistics space from multi-channel retailers because these could potentially substitute shops for warehouses.

Rising levels of automation

Given the critical importance of fast and accurate order picking, we believe that the growth of multi-channel retail will drive greater levels of automation in warehouses related to e-fulfilment, with robots becoming a much more common feature than they are today. However, as automation is focused on bringing goods to pickers, a significant workforce will still be required in e-fulfilment centres to pick individual items. Moreover, although this trend could reduce demand for some lower skilled jobs in warehouses, it could also increase requirements for skilled workers, such as engineers to ensure the automation works continually.

Implications for retailers, other real estate occupiers, developers and investors

- The growth of online retail will be one of the central drivers of change in European logistics real estate markets over the next decade and beyond.
- Retailers, parcel operators and logistics companies along with developers and investors need to stay ahead of the curve and be responsive to this change in order to optimise their respective strategies and get best value from their logistics real estate from an operational or financial return perspective.
- Retailers need to embrace multi-channel and work towards delivering a fully integrated omni-channel shopping experience for consumers.
- Developers need to focus on acquiring appropriate sites and building up strong relationships with key retailers, logistics companies and parcel operators.
- Investors need to understand how online and multi-channel supply chains work in order to understand the function of the warehouses that support these and what this means for specifcation and location and investment performance prospects.

To quote William Gibson, the science fiction writer who coined the term cyber space, 'the future is already here - it is just not very evenly distributed.' Retailers, developers and investors need to be planning for the future now.

Further suggested reading from Jones Lang LaSalle can be accessed via our website at joneslanglasalle.com

The Rise and Rise of Multi-Channel Retailing, 2012
Clicks or Bricks. E-commerce trends in Central & Eastern Europe, 2012

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