E-commerce boom triggers transformation in retail logistics

Driving a global wave of demand for new logistics facilities

November 2013
Welcome to Jones Lang LaSalle’s new three-part white paper series on global e-commerce and retail logistics.

In this first white paper, we establish our view of the overall dynamics, the rapid evolution, and finally the impact of e-commerce on the industrial real estate sector with a special focus on the emergence of ‘logistics’ or ‘distribution’ properties as a new, distinct asset class within the sector.

This will unfold differently around the regions of the world based upon a myriad of factors, and, as such, we include a number of country profiles. In our subsequent white papers, we consider what this evolving business paradigm will mean for the occupiers of this new class of logistics properties (part two) and the owners and developers of the same (part three). We seek to differentiate our approach along three main lines:

Firstly, our spotlight is on logistics and distribution real estate as a new emerging class of industrial real estate.

Secondly, we provide a global perspective, based on our experience of advising major retailers and logistics occupiers around the world. This is important because the future potential of e-commerce, retail logistics and distribution networks will vary hugely by region.

Thirdly, we aim to be forward looking, articulating an opinion on potential future trends based upon the knowledge we have accumulated from our global client base, our unique history of global advisory and transaction work and our powerful global research team.

Finally, we are interested in your ongoing input and commentary which you can give us through our dedicated landing page. We at Jones Lang LaSalle are striving every day to be at the forefront of the trends in our industry and hope you find this white paper series both informative and insightful.

Craig Meyer
Chair – Global Industrial Board
President – Industrial Brokerage, Americas
E-commerce is growing rapidly in all global regions, but the e-commerce landscape is hugely variable with sharp divergences between developed and developing economies. This landscape is changing quickly due to rapid online growth in developing economies, particularly in China and India.

Different e-commerce logistics models have been developed for different types of products and vary by market maturity. Cross-border e-commerce will expand significantly as barriers to entry diminish and as e-commerce swiftly grows, particularly in developing markets.

As e-commerce logistics models develop, they will drive huge changes in physical distribution networks, comparable in many respects to previous changes generated by the rise of global sourcing, or the earlier ‘centralization’ of deliveries to retail stores via retailer-controlled distribution centers. This will give rise to a new class of logistics and distribution properties including mega e-fulfillment centers, parcel hubs and delivery centers, local ‘urban logistics’ depots for rapid order fulfillment, and returns processing centers.

Retailers, property developers and investors that wish to gain maximum advantage from these changes need to understand and embrace both the dynamics as well as the complexities at play in different supply chains and in different countries.

Key Takeaways
The global e-commerce landscape

E-commerce and online retail sales are booming

Global business to consumer (B2C) e-commerce sales have increased sharply over recent years, driven by a growing online population and changes in consumer behaviour. In 2012, total sales topped US$1 trillion for the first time, according to eMarketer. This year they are expected to exceed US$1.2 trillion, with some 2.7 billion people, 39% of the world’s population, having internet access.

Separate estimates from Euromonitor show global online retail sales reached US$579.9 billion in 2012, posting growth of 14.8% per annum from 2007 to 2012. This rate far outstrips that achieved by total retail sales, which increased by just 0.9% annually. As a result, the share of global retail sales accounted for by online retail jumped from 2.2% in 2007 to 4.0% in 2012.

Online retail still has massive growth potential and this will drive huge changes in retail logistics and physical distribution networks.

Market variations - developed and developing countries

In developed e-commerce markets, online retail sales typically account for between 5% and 15% of total retail spending, and per capita online spending is relatively high. Among the major economies, countries such as South Korea, the UK, the United States, Germany and France are leading the way in online retail. In South Korea, for example, online retail sales account for around 13% of total retail sales. Depending on the data source, this is one of, if not the highest share in the world.

These developed markets generally share a number of attributes:

- High rates of internet and mobile broadband usage - with internet penetration rates averaging around 77%, according to ITU (International Telecommunications Union).
- Low fixed and mobile broadband costs - typically under or around 2% of monthly incomes (ITU).
- A willingness of internet users to purchase online - as indicated by a high digital buyer penetration rate among internet users.
- A regulatory infrastructure that supports online purchasing - including secure online payment systems.
- A well-developed logistics infrastructure - which supports efficient online order fulfillment.
- Mature ‘bricks and mortar’ retail markets – that make it difficult for retailers to expand sales significantly by developing their store networks, but which offer multi-channel retailers opportunities to secure synergies between their online channels and their store portfolios.

While online retail is growing everywhere, the global e-commerce landscape is hugely diverse, with different regions and countries at very different stages in terms of their e-commerce and online retail maturity.

Amid this variation, one thing is clear - with global online sales at only 4.0% of total retail sales, the e-tailing ‘revolution’ has only just begun.
In the UK, a high rate of internet penetration is reinforced by a ready willingness to buy online, as indicated by a high digital buyer rate among internet users. The latter is often attributed to a favourable regulatory environment, including secure online payment systems. In addition, it is likely to reflect a long history of mail order and catalogue retailing, as well as the early arrival of major retailer websites.

In many developed markets, such as the U.S. and UK, online sales growth is being driven by an increasing number of shoppers using smart mobile phones. In the U.S. for example, the number of mobile shoppers is predicted to rise from around 95 million in 2012 to 175 million by 2016, according to eMarketer. In France, the number of mobile shoppers was estimated by Mediametrie at 4.6 million in 2012, while mobile sales volumes jumped 150% over the year, according to the FEVAD.

By contrast, developing markets are usually characterized by much lower rates of internet penetration, with wide variations between the more affluent middle classes in the major cities, where rates of internet access are comparatively high, and the rest of the population, where internet access is much lower.

In many of these markets, fixed and mobile broadband services are very expensive. Although these prices have been falling, figures from the ITU show that in developing countries fixed broadband services account for around 30% of monthly incomes, with the cost of mobile broadband ranging from 11% to 25% of monthly incomes, depending on the type of service.

In addition, as highlighted in the World Economic Forum’s latest Global Information Technology Report, most developing countries still lag behind developed economies in terms of creating the right business and regulatory conditions for competitiveness in information and communication technology-related activities.
The quality of the logistics infrastructure in many developing economies is also highly variable. Typically, the transport infrastructure is more established around and between the major cities than elsewhere. In addition outside of these markets, the quality of the existing warehouse buildings is relatively poor. All of these issues raise challenges for efficient online order fulfillment beyond the major cities. It is unsurprising that in countries such as Brazil, Russia and China, e-commerce and retail logistics are most developed around the major cities.

In many developing e-commerce economies, the physical retail market is also relatively undeveloped, particularly outside the major cities. Among the major economies, this is especially the case in India, where less than 10% of the country’s retail sector is classified as ‘organized’.

In some developing economies, such as Turkey, the expansion of physical retail space has continued apace alongside a strong growth in online spending.

In other countries, such as Russia, where physical retail is still undeveloped in remote areas, it is possible that consumer demand for good-quality and reasonably-priced goods will see online retail leapfrog the provision of physical retail space in these areas.

A new order

Although developing economies currently lag behind developed ones in terms of their e-commerce ‘ecosystems’, as the gaps close they are predicted to see far stronger e-commerce sales growth than more mature markets.

As a result, the global e-commerce landscape will change rapidly over the next five years and beyond, as we discuss in the Country Profiles.

In particular, although the U.S. will remain the largest B2C e-commerce economy in 2017, China will move into second place and substantially close the gap.
E-commerce logistics models

In developed economies, e-commerce represents the latest big driver of change in retail logistics and physical distribution networks, which have evolved substantially over the past 40 years or so. At present, it remains the case that as e-commerce continues to grow, most retailers – particularly multi-channel retailers – are still only just beginning to work out what this will entail for their distribution network infrastructures.

The evolution of retail logistics

From a distribution property perspective, this evolution has passed through various general phases and very broadly in the timeline indicated below:

- In the 1970s, most retail stores were replenished by direct deliveries from suppliers or wholesalers.
- In the 1980s, retailers started to centralize their store deliveries through new distribution centers which they controlled.
- In the 1990s, global sourcing (for non-food products) took off, with many retailers developing import centers to receive and process mostly containerized imports.
- From around 2000, e-commerce began to rapidly expand with pure-play (internet-only) retailers leading the way in establishing e-fulfillment distribution networks.
Developed markets

In developed economies the growth of online retail has been stronger in sectors such as fashion, electrical and ICT goods, as opposed to food.

In the former, where purchased items are typically distributed via a postal or parcel network, e-commerce logistics models have led to a wave of new demand for **three distinct types of logistics facilities**:

1. **Mega e-fulfillment centers** where the merchandise is stocked and picked at item level. These facilities, which are either operated by the retailer or a logistics service provider, are typically 500,000 sq ft to one million sq ft in size, or even larger. They often operate 24/7.

2. **Parcel hubs / sortation centers** which sort orders by zip or post code so that they can be delivered to the relevant parcel delivery centre for final delivery to the customer’s home or designated collection point.

3. **Parcel delivery centers** which handle the ‘last mile’ delivery to the customer.

As online retail grows further, the drive to deliver orders to customers quicker will become an increasing competitive advantage.

As a result, this will encourage some retailers to set up their own networks of local depots - either to cross-dock items shipped from larger e-fulfillment centers or to ship certain ‘fast moving’ products direct to customers. In this emerging model, e-fulfillment blends with urban logistics, as these facilities will be mainly based around the major population centers where online sales densities are highest.

For example, in the U.S., Amazon has started to open smaller scale distribution facilities to offer same-day delivery services. In the UK, Amazon has a current requirement for some 20 smaller distribution facilities around major urban areas. By contrast, in France Amazon’s demand remains focused on very large units, with the last kilometer delivery being operated by third party providers.
In these models, retailers are taking increasing control over their e-commerce supply chains. In some cases this trend may displace the traditional role of parcel operators.

**E-commerce logistics is also driving demand for another new class of distribution property – returns processing centers, which handle purchased items that customers decide they do not want.**

The importance of this function is highlighted by the very high rates of return in certain sectors, such as fashion retail.

In our opinion, the next evolution for multi-channel retailers in developed markets will see them move from multi-channel to omni-channel.

The key distinction between multi and omni-channel is that whereas in the former the different channels (such as store, web or mobile) are independently managed, with omni-channel the channels are managed in a truly integrated way to offer customers a seamless experience however they choose to shop.

**The key to omni-channel is the integration of processes, information systems and infrastructure, including property, to enable the retailer to meet customer demand from whatever location is positioned to provide the best customer experience.**

With omni-channel, a retailer may fulfill orders from stores or warehouses – hence it blurs the distinction between the two.
Case study

From multi to omni-channel - the Macy’s way

Last year, Macy’s - the U.S. department chain - announced plans to begin shipping online orders from its stores, and in February 2013 said that it intended to extend online fulfillment from 292 stores to 500 by the close of the year, which equates to 60% of the total Macy’s and Bloomingdale’s portfolio.

The integration of online and store channels is supported by systems integration, with complex algorithms developed to help Macy’s determine from where to pull the inventory to fulfill orders. Macy’s expect this model to provide faster, and even same-day order fulfillment. It will also allow customers to buy online and collect from store.

Walmart - late on the scene but catching up fast

By all accounts, Walmart, the world’s largest retailer, arrived relatively late on the e-commerce scene, but over recent years it has invested millions of dollars into e-commerce and the investment is now beginning to pay off.

Just recently, Walmart announced two new fulfillment centers dedicated to filling online orders, one in Fort Worth, Texas (800,000 sq ft) and the other in Bethlehem, Pennsylvania. At over one million sq ft, the latter is the largest distribution center in Walmart’s U.S. network.¹

In addition to these new and existing facilities dedicated to online orders, Walmart is also utilizing its vast store network and many of its more than 130 distribution centers to ship online orders. Indeed, Walmart is now shipping more than 10% of units ordered on Walmart.com to a customer’s door from a store, and more than 50% of these are delivered in two days or less. Complex algorithms determine the best shipping mode based on the customer location and items ordered. As an alternative to home delivery, customers can also choose to collect ordered items from Walmart stores.

According to Walmart, its two new fulfillment centers are just part of a next generation fulfillment network that will deliver U.S. customer orders faster and at a lower cost. As a result, we are likely to see further demand for dedicated fulfillment centers.

Walmart expects its global e-commerce sales to exceed US$10 billion this fiscal year, which is roughly 2% of the total sales achieved in the fiscal year 2013 (US$466 billion).

¹ http://news.walmart.com/news-archive/2013/10/01/walmart-announces-new-large-scale-centers-dedicated-to-filling-online-orders
Global e-commerce and retail logistics

We expect ‘click and collect’ to become more significant in developed markets as online retail expands and consumers increasingly opt for the convenience of collection.

For online groceries, e-commerce logistics models vary. While pure-play retailers have set up dedicated distribution facilities to fulfill orders, multi-channel retailers have a variety of fulfillment options, including picking from their stores, using existing distribution centers, opening dedicated e-fulfillment centers or utilizing a combination of these depending on the density of customer orders.

Although online food sales are currently a low proportion of total grocery spending in developed markets¹, its share is predicted to increase. As this happens, we believe the next shift in online food retail will see an expansion of dedicated multi-temperature e-fulfillment centers from both pure-play and multi-channel retailers, focused around major population centers. In our opinion, multi-channel retailers will switch from picking orders from stores to picking from e-fulfillment centers (sometimes referred to as dot.com centers) in areas where sales densities justify this. However, stores will remain important in areas where ‘drop’ densities are relatively low.

¹ Even in the UK, online grocery spending only comprises around 3.8% of total grocery spending, according to the Institute of Grocery Distribution.

Case study

Online grocery fulfilment models - Amazon Fresh, Tesco and Carrefour

In the U.S., Amazon Fresh currently provides an online food service to two cities - Seattle and Los Angeles. However, if its recent Los Angeles debut proves successful, it will expand to 20 U.S. cities by 2014.

In the UK, Tesco, a multi-channel retailer and the country’s largest supermarket chain, originally picked online food orders from its stores. However, since 2005 it has opened six dot.com facilities in and around London to service London and parts of south-east England, and it has further requirements for this area. In other areas, where sales densities are lower, Tesco fulfills online food orders from its stores.

In France, Carrefour launched its cyber hypermarket “Ooshop” nearly 15 years ago providing home delivery of online orders in the major urban areas. Since 2011, it has also enabled customers to collect orders at ‘drive thru’ collection points and in three years it has opened not less than 300 such points nationwide.

In some developed markets, such as the UK, ‘click and collect’ is the fastest growing component of many retailers’ online sales, driven by consumer preferences for the convenience of collection over home delivery.

While multi-channel retailers are able to leverage their store portfolios for this purpose, this growth is driving a range of innovations. For example, Amazon is rolling out a growing number of passcode protected lockers in local shops or other public venues, and is also involved with Collect +, which allows parcels to be collected from participating local shops. In addition, eBay and Argos have recently announced a trial ‘click and collect’ tie-up.

We expect ‘click and collect’ to become more significant in developed markets as online retail expands and consumers increasingly opt for the convenience of collection.
Developing markets

In many developing markets, e-commerce logistics is still in its infancy and different models are only just emerging. To date, models for non-food products have been designed to serve the major cities, whose populations are generally a mix of the affluent and middle classes and where internet usage is relatively high.

In China, the first wave of e-commerce take-up of warehouse space was concentrated in Tier 1 cities such as Beijing, Shanghai and Guangzhou, but since 2011 we have seen major e-commerce firms setting up distribution centers in emerging inland retail markets also.

In Russia, a number of large retailer e-fulfillment centers have been developed to service Moscow and St Petersburg, including a facility for Enter, a Russian multi-channel retailer, in the Moscow region.

In Brazil, the boom in e-commerce has created new demand for warehousing, particularly in São Paulo, Brazil’s main logistics market. In this area the main logistics clusters are on the major roads that lead to the capital, no farther than 30 km from Downtown São Paulo, in locations as Barueri, Cajamar and Guarulhos.

In India, online retail currently accounts for less than 1% of total retail spending. E-commerce-related warehousing is designed to service the Tier 1 cities. At present, the country’s multiple tax structure has encouraged decentralized warehouse networks with relatively small state-based facilities, rather than larger facilities. However, the implementation of a Goods and Services Tax (GST), expected shortly, will change this by encouraging the consolidation of distribution networks, which will grow the demand for larger distribution centers.

In Mexico, some retailers and third-party logistics suppliers such as El Palacio de Hierro (Mexican Department Store), Walmart and DHL have leased warehouses in Mexico City specifically dedicated to their e-commerce businesses. But in other cities, such as Monterrey, Guadalajara, León and Merida, distribution for e-commerce is currently undertaken in conventional distribution centers alongside other business.

In some developing markets, such as India, cash on delivery (COD) has emerged as a preferred payment choice, which overcomes issues relating to online payment and the reliability of delivery.

In many developing markets, rising internet penetration and improving logistics infrastructure, including the development of new logistics facilities, will drive online sales in more remote areas. Fulfilling these orders will be a challenge for retailers, and in some countries, like China, B2C platform sites are exploring options to build their own logistics networks - this will be an opportunity for developers and investors.

In most developing markets, online grocery retail is tiny and confined to niche markets. At present, there is little evidence this is driving demand for warehousing on any significant scale.

Cross-border e-commerce

Cross-border e-commerce is growing rapidly, as pure-play and multi-channel retailers look to overseas markets to drive revenue growth.

There are significant barriers to entry in many countries, and the logistics of international e-fulfillment is highly challenging. There is no one-size-fits-all-model - some retailers are working with local partners and third parties, while others are focusing on developing a global network of local distribution centers, which may include local returns processing centers.

Cross-border e-commerce will develop significantly as barriers to entry diminish and as e-commerce rapidly grows, particularly in developing markets.
Global e-commerce and retail logistics

E-commerce logistics models play catch up with changing consumer preferences

The explosion of e-tailing and the proliferation of distribution channels are driving huge changes, with e-commerce logistics models having to evolve with changing consumer shopping preferences. As a result, retail supply chains and the distribution networks that support them, will continue to evolve, driving increasing demand for a variety of different types of distribution property.

While every supply chain is unique to a given retailer, in our view both developed and developing countries will see growing demand for a range of different types of e-commerce-related distribution property. However, the scale of this demand, the pace at which it develops and the property and location attributes of the required facilities will vary according to market conditions.

A new class of e-commerce distribution properties

To date, the strongest growth in demand has been for mega e-fulfillment centers, parcel hubs and local parcel delivery centers. In our opinion, this will continue, although we predict growing demand for local urban logistics depots and more demand for online food e-fulfillment centers.

Although returns processing is often incorporated within e-fulfillment centers - which facilitates items being quickly placed back into stock for resale – the growth of cross-border e-commerce is likely to push requirements for local returns processing centers closer to customers.

In many respects, the above properties are new types of distribution facilities, with different building specifications and different location drivers compared with more traditional warehouses and distribution centers due to their emphasis on rapid throughput rather than storage.

Based on market evidence to date and our assessment of emerging trends, e-commerce will drive growing demand for six distinct types of e-commerce facilities:

1. Mega e-fulfillment centers - where merchandise is stocked and picked at item level
2. Parcel sortation centers (hubs) - where parcels are sorted before being forwarded to local parcel delivery centers
3. Local parcel delivery centers - for ‘last mile’ fulfillment
4. Local urban logistics depots - to ensure rapid order fulfillment particularly to service major cities
5. Return processing centers - to process returned items
6. Online food e-fulfillment centers
### Emerging new types of logistics facilities

<table>
<thead>
<tr>
<th>e-commerce facility</th>
<th>Main building attributes</th>
<th>Main location attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mega e-fulfillment centers</strong></td>
<td>Very large (500,000 sq ft to 1 million sq ft+).</td>
<td>Close to parcel hub.</td>
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<tr>
<td></td>
<td>High bay (15m) to accommodate mezzanine floors.</td>
<td>Close to large labour supply.</td>
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<tr>
<td></td>
<td>Often cross-dock configuration.</td>
<td>Does not need a traditional ‘center of gravity’ location.</td>
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<tr>
<td></td>
<td>High level of employee parking to accommodate full-time and seasonal staff.</td>
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</tr>
<tr>
<td><strong>Parcel hub / sortation center</strong></td>
<td>High length to width ratio.</td>
<td>Center of gravity location to feed local parcel delivery centers in ‘hub and spoke’ network.</td>
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<td></td>
<td>Low site density.</td>
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<tr>
<td></td>
<td>Cross-dock configuration with extensive loading for lorries.</td>
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<tr>
<td></td>
<td>360-degree circulation around the building.</td>
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<tr>
<td></td>
<td>Highly automated internal operation involving sortation systems.</td>
<td></td>
</tr>
<tr>
<td><strong>Parcel delivery centers and urban logistics depot</strong></td>
<td>High length to width ratio.</td>
<td>Edge of major cities and urban areas for home delivery or delivery to collection points.</td>
</tr>
<tr>
<td></td>
<td>Low site density.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cross-dock configuration with extensive loading for vans.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>360-degree circulation around the building.</td>
<td></td>
</tr>
<tr>
<td><strong>Return processing centers</strong></td>
<td>Typically bespoke, depending on operation.</td>
<td>Located to return items to e-fulfillment centers.</td>
</tr>
<tr>
<td><strong>Dot.com warehouse for online food fulfillment</strong></td>
<td>Specification reflects type of operation – e.g. degree of automation.</td>
<td>Edge of major cities and urban areas where online food order volumes are highest.</td>
</tr>
<tr>
<td></td>
<td>Bespoke loading provision for vans.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Extensive yard area for trailer and van parking and ample parking for high number of staff.</td>
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</tbody>
</table>

As a result of these dynamics, the market for warehousing will become increasingly segmented as warehouses performing different functions take different forms.
E-commerce is a huge area of change with technology, demographics, supply chains and property all playing a pivotal role.

The growth of e-commerce is transforming the global retail landscape and forecasts suggest that this ‘revolution’ has only just begun. This growth is not a short-term phenomenon, but rather a long-term structural change, enabled by technology but driven by fundamental changes in societies and the way we choose to live and shop.

These dynamics will only get stronger due to demographics, as cohorts of ‘digital natives’ (people born during or after the introduction and widespread adoption of digital technologies) come to dominate retail spending.

Within online and multi-channel retail, logistics and supply chain management are critical to delivering the best consumer experience, and getting this right is a tremendous source of brand value for retailers.

Property is a key part of the logistics infrastructure and an essential component for delivering successful e-commerce logistics fulfillment.

To reiterate our key messages:

1. E-commerce is growing rapidly in all global regions, but the e-commerce landscape is hugely variable with sharp divergences between developed and developing economies. This landscape is changing quickly due to rapid online growth in developing economies, particularly in China and India.

2. Different e-commerce logistics models have been developed for different types of products and vary by market maturity. Cross-border e-commerce will expand significantly as barriers to entry diminish and as e-commerce swiftly grows, particularly in developing markets.

3. As e-commerce logistics models develop, they will drive huge changes in physical distribution networks, comparable in many respects to previous changes generated by the rise of global sourcing, or the earlier ‘centralization’ of deliveries to retail stores via retailer-controlled distribution centers. This will give rise to a new class of logistics and distribution properties including mega e-fulfillment centers, parcel hubs and delivery centers, local ‘urban logistics’ depots for rapid order fulfillment and returns processing centers.

4. Retailers, property developers and investors that wish to gain maximum advantage from these changes need to understand and embrace both the dynamics as well as the complexities at play in different supply chains and in different countries.
Country Profiles
The changing landscape

A changing landscape - the rise of China and India

Despite relatively low rates of internet penetration, many developing countries have among the highest number of internet users globally due to their large populations. For example, China has the largest internet population in the world, India is third, Brazil fifth, Russia sixth and Indonesia eighth.

Although developing economies currently lag behind developed ones in terms of their e-commerce ‘ecosystems’, as the gaps close they are predicted to see far stronger e-commerce sales growth than more mature markets. As a result, the global e-commerce landscape will change rapidly over the next five years and beyond.

While global B2C e-commerce sales are expected to grow by 14.6% per annum from 2013-2017 (according to eMarketer), the highest rates of growth are predicted to occur in Indonesia, China, India and Mexico. By contrast, growth rates in mature markets will be more measured, although many relatively mature markets, such as the U.S. and UK, are still expected to post annual double-digit growth rates.

These differential rates of growth will mean that by 2017 a new global order will be identifiable. The U.S. is expected to still retain its status as the world largest B2C e-commerce economy, but China will have substantially closed the gap with the U.S. and be well established in second place. In addition, India will jump up the rankings, as increasing levels of internet penetration lead to a rapid expansion in the number of internet users.

In both developed and developing markets, e-commerce and online retail growth are increasingly being generated by the rapid expansion of mobile - m-commerce.

In developing markets, the expansion of mobile broadband could have significant implications for logistics by driving growing consumer demand for online fulfillment in areas beyond the major cities.
Country profiles

Developed economies and e-commerce markets

### U.S.

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
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<tbody>
<tr>
<td>Online retail as percent of total retail, 2012</td>
<td>6.5</td>
</tr>
<tr>
<td>E-commerce sales growth, 2012-2017 (% pa)</td>
<td>11.4</td>
</tr>
<tr>
<td>Logistics Performance Index, World Rank, 2012</td>
<td>9</td>
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Big box retailers, department stores and other large merchandisers are reconfiguring their business models to compete in a virtual marketplace that is experiencing remarkable growth. Retailers, in many respects, are playing catch up with Amazon’s expanded footprint by reassessing their supply chains and enhancing their fulfillment operations.

Total B2C e-commerce sales accounted for US$351.8 billion during 2012, leading all other countries and comprising 33.7% of total global sales. The rate of internet penetration in the U.S. is high at 81.0% and there were 253.4 million internet users in 2012 – 183.8 million of which are estimated to be online shoppers.

An estimated 30% of U.S. industrial big-box demand has a correlation to e-commerce, and this will not abate anytime soon. Major retailers continue to open new fulfillment centers larger than 500,000 sq ft in markets that offer access to the nation’s key population centers. To maximize coverage, particularly as it relates to next-day shipping, retailers are also opening larger mid-size warehouse projects in secondary markets, between 300,000 and 499,999 sq ft. Others are delving into the grocery business and will have multiple, smaller facilities in metropolitan centers to bridge their larger fulfillment operations with the end-consumer. Building sizes vary in this last-mile-to-consumer push.

U.S e-commerce sales are projected to grow by around 11.4% per annum between 2012-2017.

### UK

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
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<tbody>
<tr>
<td>Online retail as percent of total retail, 2012</td>
<td>9.7</td>
</tr>
<tr>
<td>E-commerce sales growth, 2012-2017 (% pa)</td>
<td>10.3</td>
</tr>
<tr>
<td>Logistics Performance Index, World Rank, 2012</td>
<td>10</td>
</tr>
</tbody>
</table>

Pure-play and multi-channel retailers are expanding their distribution facilities to service online growth in the UK. For example, Amazon has eight UK facilities totalling around 4.7 million sq ft, and still has active requirements for further mega centers. According to press reports, it is also actively looking to take more control over its supply chain and to speed up deliveries by setting up smaller regional distribution centers under its Amazon Logistics brand. Multi-channel retailers, such as Marks & Spencer and John Lewis, have also opened large e-fulfillment centers.

In addition, the market is seeing growing demand from parcel operators for parcel hubs and delivery centers. IMRG forecasts that the total number of parcels and packages created by online purchases (excluding 2-man and groceries) will increase by 70% between 2012 and 2017 to reach 2.2 billion.

At present, online grocery spending lags behind non-food spending in terms of total sales. However, the Institute of Grocery Distribution (IGD) expects online grocery sales to more than double over the next five years (April 2013-April 2018). Currently, the UK’s main grocery retailers use a variety of models to fulfill online food orders: Tesco and Asda pick from a combination of stores and dot.com warehouses, but Sainsbury’s picks entirely from its stores – although it is looking to open a number of dot.com facilities. Pure-play retailer Ocado picks entirely from two central facilities and has 10 transhipment locations.

Sources: Online retail share from Euromonitor, 2012; e-commerce sales growth from eMarketer; Logistics Performance Index from the World Bank.
Germany is Europe’s second largest e-commerce market by turnover after the UK. The growth in online retail has led to significant new demand for large e-fulfillment facilities, led by pure-play retailers. Amazon has eight facilities in Germany totalling 8.2 million sq ft including four mega centers of 110,000 sq m each, while Zalando recently completed the expansion of its Erfurt facility to 128,000 sq m. German bookseller Koch, Neff & Volckmar is also currently developing a new 175,000 sq m e-fulfillment centre in Erfurt. Coupled with increasing demand for large fulfillment centers, Germany has seen considerable investment in parcel delivery centers - Deutsche Post, for example, has a national network of 33 parcel centers and 82 mail sorting centers.

Among the major food retailers, Edeka, Rewe and Metro currently provide online home/office delivery services, with Rewe and Metro also offering collection from store (Rewe) or a DHL pack station or store (Metro). Schwarz-Gruppe is planning to launch an online service from 2013/2014 but Aldi-Gruppe currently does not have an online offer. To date, online grocery orders are picked from stores or existing distribution centers rather than dedicated dot.com warehouses.

France is among the largest e-commerce markets in the world, ranking third in Europe after the UK and Germany and sixth globally. The market has doubled in size over the last three years. In 2012 online retail sales in France accounted for around 5.1% of total retail spending.

Amazon is the leading web-site in France in terms of the number of visits. Amazon has developed a strong logistics network across France and currently has around 250,000 sq m of logistics space in four facilities: at Saran (in the center of France), Montélimar (south), Chalon-sur-Saône (east) and Nord-Pas de Calais (north), where it recently opened a 100,000 sq m facility.

In general, the largest e-commerce retailers, seeking mega-sites, are not located in the Paris region, where supply is scarce and expensive. Only medium and smaller retailers operate directly from this region. The biggest sites are, therefore, in the regions beyond Paris, alongside the main motorway axes. For example, in addition to Amazon’s facilities identified above, Cdiscount consolidated all its logistics facilities into a single site of 100,000 sq m close to Bordeaux.

Online retailing had a strong impact on logistics market activity up to 2007 but following the economic downturn its share of logistics market take-up fell. However, since last year e-tailing activity has increased with e-retailers accounting for a 10% to 12% market share of total logistics take-up in France. The French e-retailer “vente-privee.com” (event-driven online sales) is a good example of the dynamism of the e-commerce market in France. This company operates eight logistics facilities in France totaling 150,000 sq m and has also opened sites in Germany, Spain and Italy.
Global e-commerce and retail logistics

The Australian e-tailing market has grown rapidly in recent years. While estimates vary, the middle ground has online retail at approximately 5% of total retail sales. Early views were that Australia’s land mass, and its relatively small population, would be an encumbrance to the growth of the consumer direct model. However, Australian shoppers have shown a real enthusiasm for online shopping, citing convenience as a key driver. Two factors have enabled this – one is the population density on the east coast of Australia, the other is the efficiency of Australia Post’s infrastructure. Despite this, the costs of delivery are still a challenge.

Online retail operators generally have preferred distribution locations close to Australia Post parcel hubs, with good access to public transport to attract staff. Although purpose-built facilities are only just starting to become a reality, as the industry matures and automation increases, ‘specialized’ or purpose-built real estate will become more desirable. The amalgamation and consolidation of online retailers reinforce this trend. Parcel lockers are becoming more widespread, but so too are businesses like www.parcelpoint.com.au, which leverage existing infrastructure for drop-off points.

Australian online retailers are seeking to grow in offshore markets, with distribution ex-Australia. The Asia Pacific market is accessible, sizeable and growing. Distribution models designed to accommodate cross-border fulfillment may require an alternative strategy.

Japan is the second largest B2C e-commerce market in the world after the U.S., according to eMarketer, and has over 100 million internet users, according to Internet World Stats.

Japanese retailers such as Rakuten, which provides a wide range of internet services, and Aeon, Japan’s biggest multi-channel supermarket chain, have been expanding their distribution networks to meet growing sales. Much of this warehouse demand is concentrated around Tokyo, which in terms of its Greater Area (National Capital Region) accounts for more than a quarter of Japan’s total population and, to a lesser extent, Osaka, Japan’s second largest city. Retailers want facilities as close as possible to these cities to provide same or next day delivery. Amazon has around a dozen warehouse facilities in Japan.

The growth in e-commerce is also leading to growing warehouse demand from logistics companies and parcel operators, including leading Japanese operators such as Yamato Transport and Sagawa.

The online grocery market is dominated by Aeon, which leverages its store and distribution networks to support a ‘click and mortar’ business model. Coop is also popular for online food shopping, and provides its members with a ‘made to order’ service relieving it of the need to carry inventory or have stores. In this model, the Coop aggregates orders from its members and then places orders with manufacturers and vendors. These supply the Coop’s logistics centres which then ship to regional distribution centres for final picking and packing for home delivery.

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<td>Online retail as percent of total retail year to July 2013*</td>
<td>E-commerce sales growth, 2012-2017 (% pa)</td>
<td>Logistics Performance Index, World Rank, 2012</td>
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*Source: National Australia Bank
Developing countries and e-commerce markets

**BRA**

- **Online retail as percent of total retail, 2012**: 3.4
- **E-commerce sales growth, 2012-2017 (% pa)**: 11.3
- **Logistics Performance Index, World Rank, 2012**: 45

The number of people with internet access in Brazil surpassed 100 million in 2013, meaning that the rate of internet penetration is almost 50%. Among these users, around 43% are online shoppers.

E-commerce sales in Brazil totalled BRL 12.7 billion in 1H 2013 and are forecast to reach approximately BRL 28 billion by the end of the year, a nominal increase of 25% compared to last year. In 1H 2013, 35.5 million purchase orders were made via the internet, some 20% higher compared to the same period last year. The average value of online shopping was BRL 360. Over the past 10 years, e-commerce in Brazil has increased by an annual rate of 39%, excluding flight tickets and car sales.

This e-commerce boom has created new demand for logistics facilities, particularly inside or in close proximity to the metropolitan areas in order to meet the promised delivery terms. Since warehouses in the city centers are rare and also very expensive, facilities outside the city centers with multiple docks, high security and modern installations are required by operators and retailers. In São Paulo, Brazil’s main market, logistics warehouses are usually located on the major roads that lead to the capital, no farther than 30 km from Downtown São Paulo, in locations such as Barueri, Cajamar and Guarulhos.

**RUS**

- **Online retail as percent of total retail, 2012**: 2.2
- **E-commerce sales growth, 2012-2017 (% pa)**: 12.5
- **Logistics Performance Index, World Rank, 2012**: 95

Online retail sales are estimated to account for less than 2% of total retail sales, a relatively small share which reflects a low level of broadband internet penetration, a limited use of credit cards, a distrust of online payment systems and concerns over the reliability of delivery services. ‘Click and collect’ is more widely used than home delivery, with customers usually preferring to pay ‘cash on delivery’ when collecting purchased items.

Moscow and St Petersburg dominate the online retail market, and existing e-fulfillment centers are mostly designed to service these cities. To service online orders from Moscow and St Petersburg, e-commerce operators have acquired large warehouse facilities, mainly in the Moscow region. For example, in the Moscow region, Enter, a Russian multi-channel retailer, recently leased a 60,000 sq m facility, while online retailers Lamoda, KupiVIP and Yulmart have leased large warehouse blocks of about 20,000 sq m each.

In the short term, growth will continue to be concentrated around Moscow and St Petersburg, but over the longer term we expect this to ripple out to the regions, where physical retail is still under-developed, and where there is strong demand from consumers to access better quality and reasonably-priced retail products. However, this growth will depend on improvements to the logistics infrastructure in more remote areas, including the availability of better quality warehousing and parcel delivery networks. Online grocery retail remains underdeveloped and largely confined to niche retailers.
India’s retail market is hugely fragmented with only around 10% considered ‘organized’ and, until recently, foreign direct investment (FDI) regulations restricted international retailers from entering the country. The current retail FDI regulations limit has been brought down to US$100 million with 50% of it to be invested in back-end operations including distribution facilities. This will improve the FDI outlook.

E-commerce spending in India is dominated by online travel, with spending on retail products accounting for only around 6% of the total. However, online retail is growing strongly, particularly around the Tier 1 cities. Cash on delivery (COD) has emerged as the preferred payment choice.

China’s US$206 billion e-commerce market ranks second behind the U.S., but B2C transactions historically have accounted for only a small portion of the country’s C2C-dominated market. That is beginning to change, however, with B2C’s share of the market rising from less than 5% in 2009 to a quarter in 2012. The growth of B2C is driving demand for distribution space, both from pure-play online retailers establishing new warehouse networks, and from third-party platform sites like Alibaba’s Tmall, whose virtual shopping spaces attract bricks-and-mortar retailers seeking to go multi-channel – and who must upgrade and expand warehousing facilities to accommodate online orders.

Deficiencies in India’s logistics infrastructure are constraints on efficient retail logistics generally and on e-fulfillment. A major issue from a warehouse perspective is the country’s multiple tax structure, which includes a Central Sales Tax, levied by the Central Government when goods are shipped across the states, and VAT, levied by the state when products are sold within a state in which a warehouse is located. This has encouraged decentralized warehouse networks with relatively small state-based facilities, rather than larger facilities which would enable more efficient warehouse operations. The implementation of a Goods and Services Tax (GST), expected shortly, will change this by encouraging the consolidation of distribution networks and the growth of larger warehouses.

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China’s cities suffer from a chronic undersupply of modern warehouses, and the rise of B2C e-commerce has been a boon to developers, who know that these occupiers’ continued growth will guarantee demand for future warehouse assets. The first wave of e-commerce take-up of warehouse space was concentrated in Tier 1 cities like Beijing, Shanghai and Guangzhou, but since 2011 we have seen major e-commerce firms also setting up distribution centers in emerging inland retail markets. Some of the largest e-commerce players have declared ambitions to build their own logistics networks – this will provide opportunities to partner with developers to leverage their expertise in building and managing warehouses.
The number of web users in Mexico has grown from 30.6 million in 2009 to 40.6 million in 2011; of the latter, 46% have bought something through the internet. Online sales in Mexico have expanded from US$2.8 billion in 2010 to US$6.0 billion in 2012, according to a study performed by the Mexican Internet Association (AMIPCI), the Mexican Secretary of the Economy and PROSOFT. The proximity of Mexico to the United States is also benefiting U.S. retail, as 18% of Mexico’s online buyers have purchased items from U.S. across the border.

In Mexico City, some retailers and third-party logistics suppliers such as El Palacio de Hierro (Mexican Department Store), Walmart and DHL have leased warehouses specifically dedicated to their e-commerce business. These buildings are slightly different from the conventional distribution centers. In particular, as more employees work in these kinds of facilities, more parking spaces, HVAC and illumination are needed.

At other cities in Mexico, such as Monterrey, Guadalajara, León and Merida, distribution for e-commerce is currently undertaken in conventional distribution centers alongside other business. However, this will change as e-commerce grows and companies reconfigure their operations around dedicated e-commerce facilities.

E-commerce and online retail have been growing strongly in Turkey along with the huge expansion in the country’s physical shopping centre retail market.

The online retail market has developed robustly since 2011. While many retailers have preferred to establish website stores for their brands, many others have taken space in private shopping websites. Online retail sales in Turkey are expected to increase significantly. In parallel with the growing tendency for online retailing both on the retailer and the consumer side, major developments are expected in areas such as online P2P (person to person) sales, auctions and private shopping.

This growth in the online retail sector will speed up the development of logistic solutions and facilities.

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Further reading from Jones Lang LaSalle

**Americas**
Demystifying distribution site selection, Fall 2011
Retail 3.0: The evolution of multi-channel retail distribution, 2012
Digital metamorphosis 10 trends that are transforming the retail landscape, 2013

**EMEA**
Clicks or Bricks? E-commerce trends in Central & Eastern Europe, 2012
E-commerce: Trends and effects on high street shops and logistics, November 2012
A new logistics real estate landscape. The impact of multi-channel retail on logistics, February 2013

**Asia Pacific**
Online Retail: Driving a new wave of Industrial business, May 2012
E-Commerce in China: Online is the New Black, September 2013
Jones Lang LaSalle contacts

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