

# An Overview of the Role of Logistics Real Estate Europe

**Abstract** Logistic real estate has unique features with respect to the other sector of real estate and it includes different type of assets that typically fit into distribution and storage purposes. This chapter presents a definition of logistic real estate market and provides the main differences among distribution centers, fulfilment centres, warehouses and manufacturing/production facilities. The analysis presented considers also the dynamics of the demand and the supply for logistic real estate describing the location attributes, the macro-determinants and clusters that may affect the performance of the asset.

**Keywords** Logistic users · Building type · Market players · Logistic networks · Performance

## 2.1 INTRODUCTION

Industrial and logistics real estate is one of the main asset classes of commercial property. Logistics became a distinct asset class itself, in the early 1990s, in line with the evolution of operational logistics and supply chain management (BNP Paribas Real Estate 2010; Bhutta and Migliorelli 2015). For better understanding of the nature of the logistics market, a clarification of the definition of logistics as ‘business’ and as ‘real estate’ is essential. Logistics is a strategically important business area, defined as ‘the process of planning, implementing, and controlling procedures for

the efficient and effective transportation and storage of goods including services, and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements' (CSCMP 2013). As a real estate asset, distribution and storage purpose-built buildings providing space for this process are considered as logistics facilities within industrial properties.

The logistics, as a business, is one of the most vital components of the global economy with its linkage of production and consumption. However, it has started providing additional services related to production and distribution, already integrated in manufacturing subprocesses in line with recent developments. The increasing global trade volume, the growing middle class in emerging markets and the ongoing reconfiguration of the global supply chain have all affected the industrial and logistics real estate sector in a positive way (Prologis Research 2012). The essentiality of logistics to global commerce and the underlying trends driving demand make logistics real estate an attractive business. The logistics market in Europe is expected to grow at a moderate CAGR of close to 7% by 2020 (Technavio 2017). The growing e-commerce market in Europe is one of the key factors driving the growth of the market in the coming years, coupled with the certain secular and emerging drivers.

An increasing number of investors is considering logistics real estate as an asset class worth investing in. Indeed, European logistics investment volumes recorded a significant growth to EUR 12.9 billion in 2016 from EUR 4.4 billion in 2010, followed by a recovery period after global financial crisis. Furthermore, logistics warehousing was the only main commercial real estate sector that did not register falling investment in 2016 (Real Capital Analytics 2017a).

This chapter presents a general overview of European logistics markets, the distinctive characteristics of logistics real estate assets (Sect. 2.2), recent trends and their impact on market dynamics—demand and supply—(Sect. 2.3), and a summary of the associated opportunities and risks shaping the industry (Sect. 2.4).

## 2.2 MAIN CHARACTERISTICS OF LOGISTICS REAL ESTATE

In order to understand the nature of the logistics real estate market evolution, there is a need to be answered these questions: Who are the main logistics users/sectors? What are the building and locational features of

the logistics properties? Why invest in logistics assets? By this way, the main characteristics of the logistics market can be examined on demand, supply and investment aspects.

Logistics real estate properties are versatile and can provide space for a wide range of uses/users for various sectors, which make hard to get a complete picture of the market. Mostly, growth in logistics real estate has kept pace with growth in consumption and trade; therefore, manufacturing and retail business activities are the core sectors for logistics space requirements. Therefore, the majority of the users may be retailer, wholesaler, transportation company, manufacturer or third-party logistics provider (3PL) working on behalf of other customer types.

Logistics users and their profile can analyse not only by industry but also by purpose of usage to capture the complexity and diversity of logistics properties. In fact, logistics real estate properties can serve many functions, but they typically fit into distribution and storage purposes. So, the primary uses are business to business distribution (B2B), business to consumer (B2C), retail store distribution, e-commerce fulfilment and manufacturing; often multiple uses can occur within a facility. Putting these categories together, the main users and their profile are summarized in Table 2.1.

The physical features of logistics properties, related to the space requirements of the main users, can be used to extend the definition of logistics real estate. Although no standard typology exists for categorizing logistics properties, generally they cite as a subcategory within industrial properties, but their facility types and sizes cover a huge range

**Table 2.1** Main logistics user and profile. *Source* Data processed by author

<i>User type</i>	<i>Industry/sector</i>	<i>Purpose of usage</i>
3PL	Electronic/appliances	Retail distribution
Wholesaler	Food & beverage	B2B distribution
Retailer	Diversified retailer	B2C distribution
Manufacturer	Apparel/specialty goods	Transport
Transportation/freight	Automotive	E-commerce
	Consumer products	Manufacturing
	Packaging, paper	
	Construction, home improvement	
	Transportation/distribution	
	Healthcare/pharma	
	Data centres	

**Table 2.2** Building features for logistics facilities. *Source* Data processed by author based on reports by brokerage companies and associations

<i>Function</i>	<i>Size (sq.m)</i>	<i>No of occupiers</i>	<i>Building type</i>
Distribution centre	Small (<10,000)	Single tenant	Light manufacturing
Fulfilment centre	Medium	Multi-tenant	Warehouse
Warehouse	(10,000–30,000)		Big box
Manufacturing/ production	Large (30,000–50,000) Enormous/mega- sheds (>100,000)		Self-storage

regarding business types. As previously discussed, some distinctive attributes are required to label an industrial property as a logistics facility. Building size, age, function, type and number of occupiers are widely used to categorize distribution and storage facilities by various experts in the real estate sector (Table 2.2).

The primary types of the logistics facilities are manufacturing, distribution centre and warehouse, while they can be broken down into sizes: small, medium, large and enormous. Small industrial facilities include single- or double-storey buildings zoned for industrial use, and they have flexible interior space, usually a mix of warehouse and office space. Flexible spaces are used by mostly start-ups and R&Ds. Large industrial facilities include medium to large warehouses and factories that are designed to manufacture or store goods, mostly accommodated by distribution companies such as 3PLs. On the larger end of the scale are the ‘big box’ industrial spaces. These enormous spaces are used as logistics and distribution centres that store and then distribute finished goods to stores and/or directly to customers.

Apart from the physical features of the logistics properties, their location attributes have importance for users, especially in their site selection decisions. According to Prologis Logistics Facility User Survey (Prologis Research 2013, 2016b) that European distribution locations are ranked regarding various priority criteria affecting the desirability of a logistics location, the three most important factors are: (1) proximity to economic networks and strategic transportation access; (2) proximity to customers; and (3) labour availability and flexibility. Users also prefer to favour closeness to economic networks, low costs (both transport and real estate costs) and availability of skilled labour, while incentives play

**Table 2.3** Main location attributes for logistics properties. *Source* Data processed by authors based on reports (Prologis 2013, 2016b)

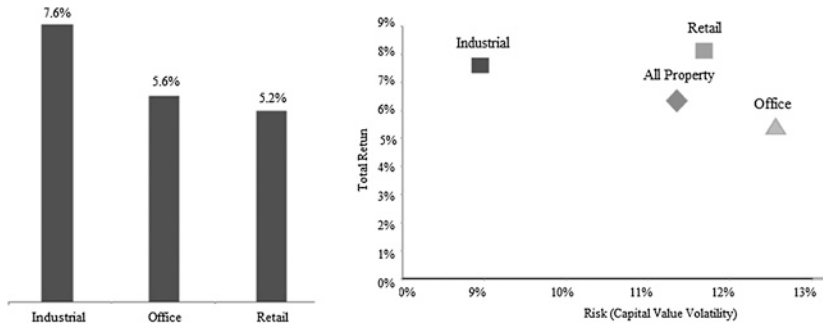
<i>Proximity</i>	<i>Labour &amp; government</i>	<i>Real estate</i>	<i>Infrastructure</i>
Proximity to customers*	Labour availability and flexibility*	Real estate costs	Proximity to economic networks and strategic transportation access*
Proximity to suppliers	Labour costs	Availability of land	Proximity and quality of road access
	Regulatory	Availability of existing modern warehouses	Proximity to different types of modality transportation costs
	Incentives		

*Note* The most important factors are indicated with asterisk

less of a role in site selection. The main location attributes for logistics properties can be grouped into four categories, given in Table 2.3.

The industrial real estate has proven to be a solid and defensive asset class, providing an attractive risk/return profile with relatively low volatility or downside risk. Investments in industrial real estate have increased considerably, as this property class has gained favour with investors, leading to more transparency and liquidity (Prologis Research 2012). The investment volume in industrial assets increased from EUR 12.9 billion in 2010 to EUR 28.3 billion in 2016, with a record investment volume. As a self-standing sub-asset class, the share of the logistics asset investments in total industrial sector reached 46%, the highest peak in all times (Real Capital Analytics 2017a).

Industrial real estate has been one of the best performing property sectors offering high income and total returns, low volatility and diversification opportunities. Based on the IPD series, the industrial sector was the second best performing sector with an annualized return of 7.3% over the last 10 years (2000–2011). The level and stability of the income return offered by industrial assets remained attractive, slightly above the direct return component of offices and retail. This higher current yield gives industrial sector a buffer against economic volatility and provides a cushion to increasing financing costs. The low volatility of the industrial and logistics sector, with the lowest standard deviation of historic capital value and rent growth, emphasizes the defensive nature of logistics assets compared



**Fig. 2.1** Performance of industrial real estate. *Source* Prologis data processed by the authors

to the more cyclical commercial real estate markets (Fig. 2.1). Finally, European diversification in industrial real estate provides protection over periods where diversification would be most beneficial, because European countries have different economic and property cycles, and hence, timings of these cycles are not perfectly synchronized. Furthermore, as each individual industrial asset is relatively inexpensive—from both a purchase and a development standpoint—investments are well spread, making it an ideal sector for diversification (Prologis Research 2012).

Other advantages of investing industrial and logistics properties are related to standard lease terms, such as longer lease periods, fixed rent increases and low maintenance costs. Accordingly, most industrial leases include fixed annual rent increases, linked to the CPI. Typical lease agreement periods are longer than other property types (up to 10 years in some cases) that provide investors with much greater security compared to other property classes. Most industrial leases are net leases allowed to be paid costs (insurance, utilities, maintenance and repair costs) by tenants that would normally be paid by owner.

On the other hand, industrial and logistics assets have certain risks that need to be considered from investors' perspective. First, providing finance can be harder due to the perception of industrial real estate as a riskier investment than other assets from standpoint of the lenders, so the cost of borrowing is higher. The required deposit and interest rate can be higher compared to other commercial assets. Second, the risk of vacancy is higher; industrial properties are more vulnerable to market conditions

**Table 2.4** Major players in the European logistics real estate market. *Source* Data processed by authors based on RCA database

<i>Real estate investment funds and REITs</i>	<i>Asset managers and developers</i>	<i>Logistics companies</i>
Gramercy Europe	Goodman	DB Schenker, Deutsche
Geneba Properties N.V.	Aurelis Real Estate	Post DHL, Kuehne + Nagel,
Blackstone (via operator	Prologis	SNCF, USP, Damco,
Logicor)		FedEx, Schneider Logistics,
AEW Europe		TNT Express
NBIM & Allianz (partner- ship with Prologis)		
PointPark Properties (with TPG & Ivanhoe Cambridge)		
Patrizia (with Oaktree)		
Segro (with PSP & CPPIB)		
Gazaley & Brookfield		

than other properties, and it can take a long time to find a new client if economic downturns resulted in a closure of business. Third, industrial buildings are ageing and can quickly become obsolete due to evolving and innovating nature of the industry sector. The key aspects of flexibility and adaptive reuse, which become more favourable in investments in recent years, can be problematic for industrial asset portfolios.

Logistics warehouses are largely owned and managed by various real estate investment funds and REITs focusing on logistics properties, logistics companies and major domestic developers (Table 2.4).

The majority of the investors in industrial and logistics assets are owner-occupiers, who see the advantage of purchasing their space or prefer ‘built-to-suit’ models which meet their space requirements and fit what they need in their business activities.

Based on RCA’s holding database, Prologis remains the largest owner of European logistics, as the historical leader. Logicor, a wholly owned company of private equity investor Blackstone, is one of the top investors into European logistics over the last five years, followed by Prologis (Real Capital Analytics 2015).

Due to the high amount of capital necessary for starting any investment in the industrial market, most investors are the large players, but the market is also potentially attractive for smaller investors that can assume exposures on the sector buying REITs with an exposure on the sector (Gilmour 2016).

Alternatively, a number of investors have formed joint ventures to build large logistics platforms across Europe to take advantage of the economies of scale size can bring (Real Capital Analytics 2015).

### 2.3 MARKET DYNAMICS

The European industrial and logistics market has been evolving with major developments which have played a significant role in changing demand and supply dynamics. Two major phenomena had an enormous impact in shaping the market, industrial and technological revolutions. Industrial market witnessed a progressive development over the last century and has entered a new phase with changing global trade and consumption patterns.

The modern industrial market has been growing since late nineteenth century, after the industrial revolution. During 1920s and 1930s, industrial areas agglomerated around transportation nodes. However, both manufacturing and distribution industries have been decentralizing since 1950s. Many factors have contributed to the suburbanization of the industry, along with improved infrastructure providing accessibility to areas outside of major cities (Peiser and Schwanke 1992). Later, globalization and technological innovation had a significant impact on development of the industrial market.

A structural change has occurred with free trade and improvement in infrastructure network within Europe, and industrial real estate market has adapted itself by increasing specialization of industrial uses from general-purpose industrial buildings to special-purpose warehouses. The evolution of the logistics as a subcategory within industrial real estate has arisen primarily as a result of the changing process of storage and delivery of industrial output in the last two decades, in particular.

The rise of logistic real estate clusters—agglomerations of distribution centres—becomes wider throughout the world, first emerged in North America and then spread out in Europe. The growth of logistics real estate clusters is driven by three principal factors: the growth of consumer classes—driven by population, employment and wage growth—and increasing consumption is the primary factor. Geographic positioning along global trade routes can also influence the formation and growth of the logistics clusters. The third force driving growth is the modernization of supply chains (Prologis 2015).



**Table 2.5** Main demand drivers. *Source* Data compiled from Prologis Research (2012)

<i>Macro-economic (cyclical) drivers</i>	<i>Industry-specific (structural) drivers</i>
Economic growth: GDP, production and manufacturing	Globalization, sharing economy
Consumption: population growth & urbanization, retail sales, emergence of middle class	Advance in technology, innovation
Trade: import & export	Supply chain reconfiguration/modernization consolidation, outsourcing
	E-commerce, multi-channel retail
	Rising energy and transportation costs

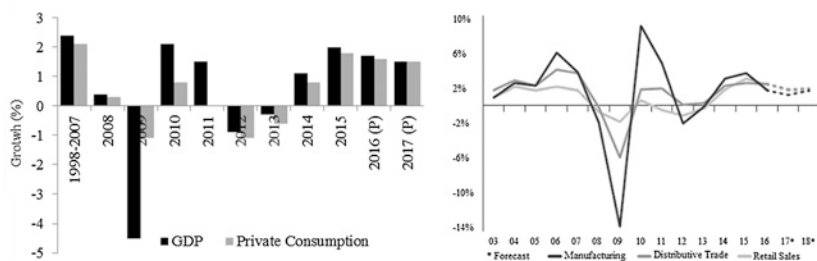
The main logistics occupiers retailers, manufacturers and distributors—have also started to rethink the circulation of products from the factory to the consumer with new business models, such as e-commerce. Their efforts are spurring the construction of logistics real estate in key areas, closer to large concentrations of consumers or to vital distribution nodes. Other factors, such as availability of land, cost of labour and levels of government support and incentives, have also influence on the development of logistics real estate clusters.

The European industrial and logistics market has been facing challenges and finding opportunities created by the evolution of industry in the twenty-first century. Logistics real estate remains a growing industry reflecting the impact of secular trends, coupled with the emergence of some new dynamics. In the next section, demand and supply dynamics and also their increasing interactions will be discussed.

### 2.3.1 Demand

Demand for logistics real estate has been increasing globally due to multiple drivers serving the global economy. Main demand drivers of industrial and logistics market can be categorized as macroeconomic (cyclical) and industry-specific (structural) drivers. Economic growth, private consumption and trade are the leading macroeconomic drivers, but also certain industry-specific factors have an impact on demand, given in Table 2.5.

The GDP and industrial real estate demand remain highly correlated, even under the modest economic and financial conditions. The GDP growth, therefore rises in GDP per capita coupled with growing middle class, can push economic activity into a new, high-growth phase. Despite several geopolitical risks, the European economy remained in recovery



**Fig. 2.2** Performance of macroeconomic drivers in Europe. *Source* IMF and BNP Paribas Real Estate data processed by the authors

mode. The EU GDP growth in 2015 was 2%. While the European economy is not expected to accelerate in the near term, GDP growth should hover around 1.5–1.7% in the forthcoming years (IMF 2016).

Private consumption is the largest component of GDP with around 58% contribution in the Eurozone (Eurostat 2016a). Private consumption will become the main pillar of growth in most European countries and is expected to show steady growth across Europe over the next five years, except the CEE with expectation of growth at a strong pace of 3.1% p.a. until 2020 (Cushman and Wakefield 2016). The changing nature of consumption is the primary underpinning of positive performance and the most prominent force shaping future demand. Besides, the retail market associated with manufacturing and trading is another important sector for growth in the logistics sector, in terms of retail sales growth. The performance of the macroeconomic drivers is exhibited in Fig. 2.2.

Global trade is a traditional demand driver of logistics sector, and trade partnerships play a central role in international trade negotiations. The EU has become the world's largest trading block representing around 38% or EUR 11.1 trillion of total world trade (Eurostat 2016b), and five European countries (Germany, the Netherlands, France, Italy and the UK) are within the world's 10 largest exports/importers (World Trade 2017). In addition, the EU is the largest trading partner of a number of large emerging economies, including China, India and Russia.

The occupier demand in the logistics sector is driven by key structural changes such as globalization, technological innovation, evolution of online retail, retail consolidation and outsourcing of logistics activities to 3PLs. They have forced many companies to reconfigure their supply

chain networks; therefore the number of occupiers leasing modern logistics space is growing, and global corporations need distribution facilities on multiple continents (Prologis Research 2012).

The removal of barriers to the movement of goods, capital, services and labour force with globalization has made possible to access to global sourcing alternatives in worldwide and accelerated global commerce. The production of labour-intensive and capital-intensive goods was outsourced to more cost-effective countries, particularly China and the CEE, having a deep impact on the demand for logistics services. Markets became increasingly interlinked on the global level. Within Europe, the opening of national borders has enabled companies to pursue regional or pan-European distribution networks; therefore, demand for distribution centres and logistics facilities has gained momentum. In regions with less mature industrial markets, distribution remains more decentralized to address the emergence of new markets. This, in combination with growing retail markets in the CEE, has shifted the distribution, and to a lesser extent the consumption point of gravity, slightly eastward (Prologis 2012).

The advancements of new technologies have had an enormous impact on transforming the logistics industry. The rise of new information and communication technologies has led to more transparency in the supply chain and an acceleration of goods flow. The globalization of supply chains has led to longer distances between production and consumption markets. As a result, many companies have implemented extensive technologies to ensure effective supply chain management, greater flexibility and agility into their logistics network which has enabled them to expand sales with a smaller inventory.

The reconfiguration of supply chains leads to an increase in replacement demand and therefore a move from multiple, smaller and more obsolete properties into larger, more efficient warehouses to create supply chain efficiencies and significant cost reduction. Furthermore, the distribution and storage of goods is capital and labour-intensive process and can be performed much more cheaply by 3LPs which allows for more flexibility, especially in the periods of economic downturns. This outsourcing gave rapid rise to the specialized 3PLs, and as a result, the contract logistics business has grown by 9.1% per annum over the last 10 years. Globalization has also led to an increase in number of mergers and acquisitions (M&As) among 3PLs, which are triggering the redesign of supply chains. In Europe, the logistics industry itself is adapting to the needs of pan-European distribution through consolidation (Prologis Research 2012).

The growing e-commerce market in Europe is another key factor driving the growth of the logistics sector. E-commerce has gained a growing share in overall retail sales, and the shift from retail stores to the online channels has had a positive effect on demand for warehouse space, with retailers moving from high-street shops to large, efficient distribution centres (Prologis 2014; JLL 2013; Savills 2017; Colliers 2015; CBRE 2017). The popularity of online shopping in Europe has led to an increasing demand for efficient logistics services for the shipment of products. In 2015, the e-commerce market in Europe was valued close to USD 480 billion (Technovio 2017). The impact of e-commerce on industrial real estate introduces a special focus on the emergence of ‘logistics’ or ‘distribution’ properties, as a new distinct asset class within the sector (JLL 2013). Therefore, the growth of the e-commerce industry will directly impact the logistics market in Europe in a positive way.

According to Prologis 2016 survey, ranked the anticipated importance of key drivers affecting European distribution network strategies during the next five years, the most important driver is the availability of qualified staff, although this differs significantly by country (Fig. 2.3). It is most important in Northwestern Europe and the UK, but less important in the European periphery. Another driver, infrastructure improvements, is expected to change the market significantly, especially in the CEE

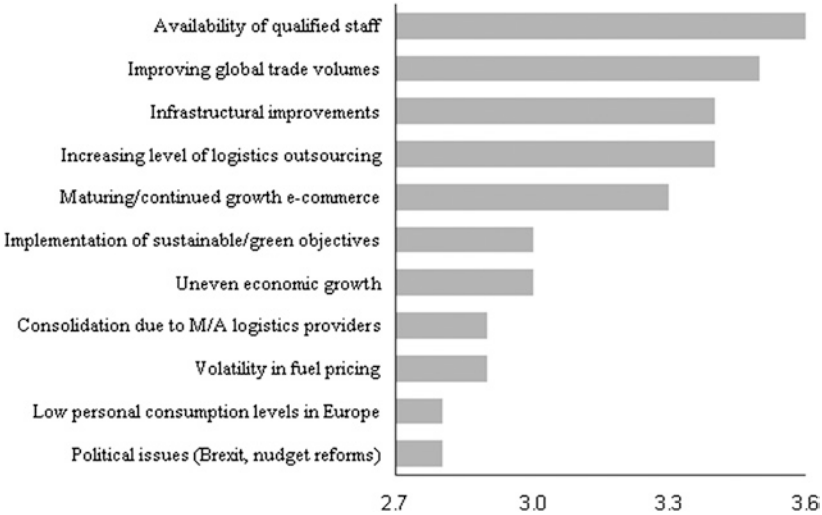
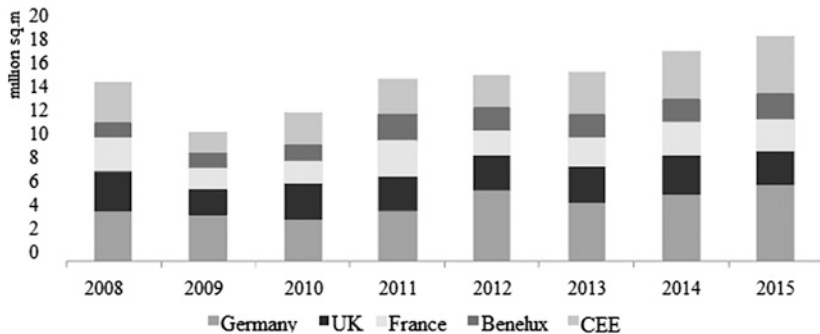


Fig. 2.3 Key drivers by 2020. *Source* Prologis Research data processed by the authors



**Fig. 2.4** Industrial and logistics space take-up in the main European markets.  
*Source* Cushman & Wakefield data processed by the authors

region where infrastructure is developing rapidly. Global trade, outsourcing and globalization will be stronger drivers of change than cyclical drivers such as economic development and consumption (Prologis 2016b).

The aforementioned drivers have continued to lead a growing demand for warehousing space and distribution networks in Europe, reflecting in occupier activities. Despite a challenging economic environment over the last few years, the European logistics market has had two consecutive years of record take-up. The overall industrial take-up exceeded 18 million sq.m in 2015, reaching a new all-time high. Indeed, the letting activity has steadily increased since 2009, which was only 10 million sq.m (Fig. 2.4).

The three leading occupier countries—Germany, France and the UK—have recorded highest take-up level, but also a shift in demand has occurred towards regional markets outside the traditional hubs. The CEE markets have clearly benefited from the globalization trend, with the share of the CEE in total European take-up increasing significantly (Cushman and Wakefield 2016).

Many of these forces have been magnified by the changes within the Europe, where an eastward shift in the production, and to a lesser extent consumption, has caused changes in supply chains and an increase in demand for logistics services. Combined with structural changes, secure drivers—especially global trade and consumption—will help identify future European growth spots for logistics in the forthcoming years (Prologis 2012; Savills 2017).

### 2.3.2 *Supply*

Logistic real estate is a highly segmented market presenting a vast spectrum of facility types for different kinds of occupiers, from light manufacturing to distribution and storage purpose warehouses. The heterogeneity of the logistics market makes hard to estimate total supply size. The majority of the properties effectively used in distribution and storage, but which may not fit modern standards. In fact, the European logistics property market is relatively underdeveloped, particularly compared to the USA, where the market has more than four times modern warehouse than Europe. It is estimated that less than 20% of logistics stock is modern in Europe (Prologis Research 2012).

The majority of the industrial and logistic properties consist of owner-occupied and stand-alone units. Due to the shortage of supply and insufficient infrastructure, occupiers prefer ‘built-to-suit’ model in order to have the opportunity of adapting the building to their specific space requirements. Recent studies reported that European industrial occupier markets continued to be characterized by a scarcity of well-located, modern warehousing units, with new development driven by pre-leasing and built-to-suit activities (Colliers 2016; JLL 2017; BNP Paribas Real Estate 2016; Prologis Research 2012).

The European logistics market supply comprises a far more distributed, decentralized and fragmented, that differs markedly from both North America and the APAC. Traditionally, port-oriented logistics activities and population density are the key factors in shaping logistics clusters. Although Europe’s population agglomerate in certain areas, the majority of the population is spread out over a wider area in a very large number of towns and cities of under 5 million—except London, Paris, Moscow and Istanbul (Colliers 2015). The distribution and logistics activity across Europe have started to shift with recent trends in global trade and consumer habits. The ‘Blue Banana’ have been the primary area comprising the majority of European distribution, production and logistics operations until recently. The dominance of trade via North Sea ports, combined with high population and GDP/capita density, has supported the long-term establishment of port-related logistics activities in the region (Fig. 2.5). On the other hand, new infrastructure projects, increasing consumer demand from the CEE region and the emergence of a growing manufacturing belt running from Poland to Turkey, have supported to evolve older trade routes.

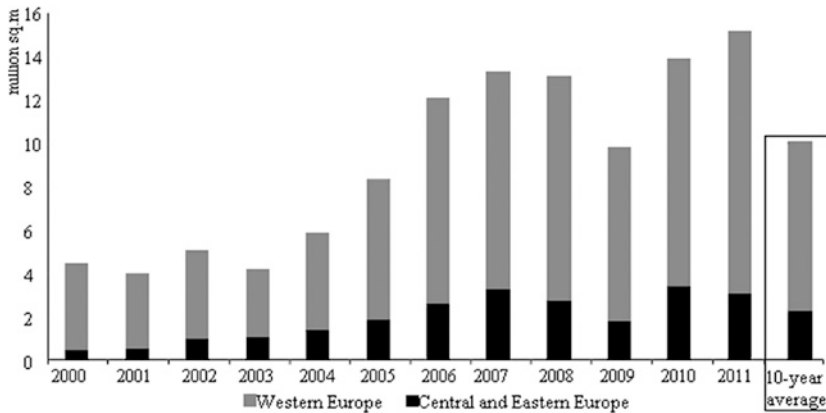


Fig. 2.5 New supply of distribution space in Europe (2000–2011). *Source* Prologis Research data processed by authors

This leads to a wider distribution of modern logistics transportation networks and facilities within the continent (Colliers 2015). The European logistics market is segmented into four regions based that are significantly different on the basis of logistics market size, openness of the economy and forecasted five-year GDP growth (Prologis Research 2012):

- **Large Transportation Countries with a Domestic Focus:** Countries have a high population with a domestic-based economy; therefore, most of the distribution centres serve the local and domestic markets (the UK, Spain and France).
- **Traditional Gateways with a European Focus:** Countries viewed as the European gateways benefit from their geographical position within Europe with the presence of Europe's largest seaports like Antwerp, Hamburg and Rotterdam, good hinterland links and a good proximity to a large consumer base; these countries have a larger presence of European distribution centres (Belgium, Germany and the Netherlands).
- **Regional Markets with Open Economies:** Countries have a high export share, but rather small market size, and most distribution centres mainly serve the region and local market (Czech Republic and Slovakia), and to a lesser extent Sweden.

- **New Logistics Market with Strong Prospects:** Poland with large consumer base and its central position between Eastern and Western Europe benefits from new infrastructural developments, manufacturing and consumer demand growth. The CEE’s largest logistics market with a high number of regional distribution centres, local distribution centres and national distribution centres.

The reconfiguration of the European supply chain and the rise of e-commerce mean there is a significant development potential for modern, efficient distribution facilities across the region (Prologis Research 2013). Logistics companies are constantly optimizing their distribution strategies to ensure high service levels for minimal costs. Logistics facility users continue to consolidate their operations in larger more efficient Class A facilities and generally plan to operate in larger networks (Prologis Research 2013). According to a survey by Prologis, to explore industry perceptions on the current and future most desirable logistics locations around Europe, the Benelux is the clear winner with three markets which are located in the Netherlands (Venlo, Rotterdam) and Belgium (Antwerp-Brussels). With the exception of two markets, Madrid and Pan-Regional Romania, the top 10 most desirable locations are in Continental Western Europe (Benelux, Germany and France). Looking to 2018, the results show that Venlo will remain the most desirable location for logistics facility users, and locations in the CEE region will gear up and become more attractive in the European logistics landscape (Prologis Research 2013) (Table 2.6).

**Table 2.6** Top 10 logistics locations in Europe. *Source* Prologis Research (2013)

	2013	2018
1	Venlo (the Netherlands)	Venlo (the Netherlands)
2	Antwerp-Brussels (Belgium)	Rotterdam (the Netherlands)
3	Rotterdam (the Netherlands)	Antwerp-Brussels (Belgium)
4	Rhein-Ruhr (Germany)	Rhein-Ruhr (Germany)
5	Madrid (Spain)	Pan-Regional Romania (Romania)
6	Liège (Belgium)	Ile-de-France (France)
7	Central Germany (Germany)	Madrid (Spain)
8	Pan-Regional Romania (Romania)	Liège (Belgium)
9	Ile-de-France (France)	Frankfurt am Main (Germany)
10	Düsseldorf (Germany)	Central Germany (Germany)



This shift in logistics clusters can be observed in the industrial and logistics stock quality and features. The proportion of Class A distribution space is very small and is approximately 14% of the total industrial stock universe in Europe. The ratios diversify across Europe, with the lowest modern stock percentages in the core Western Europe (Benelux, Germany, the UK and France) and the highest ratios in the CEE markets where the majority of modern stock was developed over the last 10 years. However, the large and increasing amount of vacant, old and smaller units (often between 5000 and 10,000 sq.m) point out a mismatch between current available stock and demand for modern warehouse space (Prologis Research 2012). Given that the majority of industrial stock in Europe remains obsolete and therefore doesn't meet the standards of warehouse users, the demand for modern warehouse space is increased significantly during the last decades.

The mentioned trends have a significant impact on the formation and growth of logistics supply. Supply is just barely keeping pace with demand, especially for large units. Speculative projects remain limited and are not sufficient to offset the demand for new warehouse space. As a result, demand for owner-occupier deals is high in most countries and still favourable financing conditions and low interest rates are encouraging occupiers to consider this alternative solution (BNP Paribas Real Estate 2017; PwC 2017). Indeed, supply levels of new warehouse space dropped below the historic average after the peak years of 2007 and 2008 (Fig. 2.5). The speculative developments were just 8% of new development started in Europe during 2011, which was almost the reverse of what was seen during the upturn, where speculative schemes accounted for the vast majority of new developments (Prologis Research 2012).

Future global logistics space requirements are estimated around an extra 16–49 million sq.m per year, across the country, based on the increasing demand with projection of growth in household consumption and population by 2020. Accordingly, China is the largest, and the USA and India are the next biggest markets. The largest size requirement within Europe is the UK/Ireland, closely followed by Western Europe and Turkey (Fig. 2.6). While existing capacity could be used for some of this growing volume of trade, this exemplifies the need for a far more efficient and sizeable logistics network of space and facilities—particularly in the key urban clusters. The increase in demand is driven primarily by population growth, but e-retailing had already a significant impact on the current supply conditions. Based on the current e-retailing sales (as

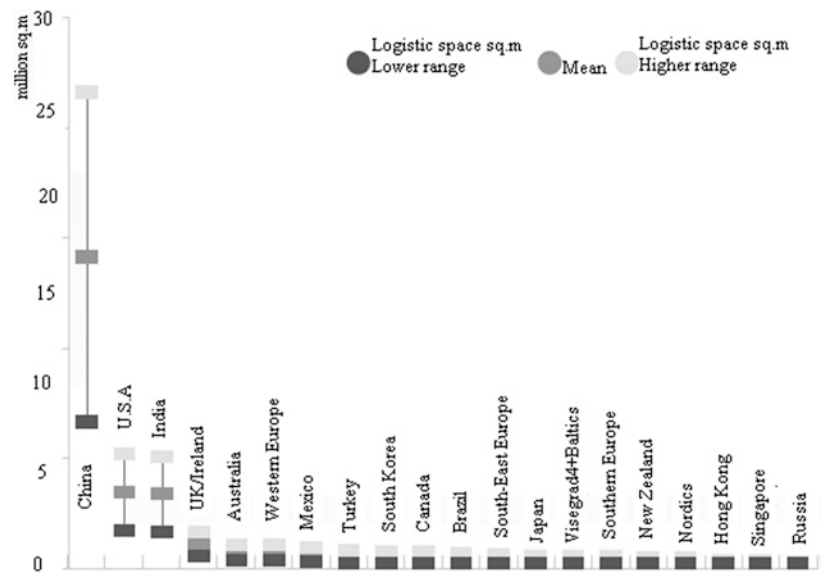


Fig. 2.6 Annual logistic space requirement (million sq.m, 2015–2020). *Source* Colliers data processed by authors

a percentage of all retail sales) at current average order values and parcel sizes, overall 1.1 trillion more parcels per year will be delivered by online channels. This converts to an estimate 350 million more pallets a year by 2020; however, it may likely to be much more than this, as e-retailing continues to grow (Colliers 2015).

Supply chain reconfiguration and modernization have added to the global demand for new logistics facilities. Besides, consolidation of operations into more modern facilities is improving efficiency and adding to the demand for modern stock. Although the adoption rate of modern logistics real estate is still low in many parts of the world, the warehouse facilities are becoming increasingly segmented, as warehouses taking different forms for different functions (Prologis Research 2016a). In particular, growing e-commerce market drives huge changes in physical distribution networks. The purchased items are typically distributed via postal or parcel network, but e-commerce logistics models have led to a wave of new demand for the distinct types of logistics facilities summarized in Table 2.7 (JLL 2013).

**Table 2.7** Emerging new types of logistics facilities. *Source* JLL (2013)

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

## 2.4 CONCLUSION

International investors and occupiers increasingly appreciate the importance and distinctions of logistics real estate. Opportunities for both developers and investors to capitalize on niche markets and unique business relationship have resulted in a wider range of specialized industrial buildings than in the past. In fact, the bright performance of two distinct segments of the industrial market—distribution hubs and the urban delivery units—is demonstrated by the movement in average transaction yields versus general warehousing, below 6% for the first time in RCA history (Real Capital Analytics 2017b).

In recent years, investors have started to show a growing interest for alternative asset class, such as student housing, senior housing or data centres, while logistics is the only commercial real estate, which indicated as one of the sectors offering the very best investment and development prospects for the forthcoming years (PwC 2016; Cushman Wakefield 2017).

The global economy is being reshaped and so is the distribution of wealth. As world trade grows, so do the challenges for logistics industry, as a result of increasing population and production. Global trade in goods and services is likely to rise more than threefold to USD 27 trillion in 2030 (PwC 2010). Changing demographics, urbanization, advance in technology have an impact on market dynamics of logistics and sub-markets across the world. Technology, however, has had an enormous impact on transforming the logistics industry. Countries where e-commerce is set to rise dramatically, combined with an urbanized population, are expected to see the greatest potential for change. However, countries in the CEE region such as Poland, Hungary and the Czech Republic, where labour is cheaper and land is in greater supply could be the net beneficiaries of the supply chain centre shift to the east due to the increase in automation and due to the lower demand of skilled human capital necessary for managing logistics services. Recent trends in the retail and service sector, demographics, technology and regulation are all conspiring to ensure that in the short to medium term the outlook for logistics real estate is bright (Savills 2017).

The interrelated market trends have affected logistics supply and demand by raising a new class of logistics and distribution properties, which means a whole new range of considerations in the valuation process of the specialized product (Appraisal Institute 2005). The evaluation criteria for logistics real estate and also the performance of the market are presented in the next chapter.

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