

RESEARCH & INSIGHT PUBLICATION

URBAN LOGISTICS

THE ULTIMATE REAL
ESTATE CHALLENGE?



OVERVIEW



Demand for urban logistics space to serve last mile deliveries is growing in tandem with eCommerce orders.



Available sites for urban logistics use are in short supply in most of Europe's cities.



Urban supply chain solutions on the outer rim of cities involve real estate, while urban centres require creative delivery solutions.



Technological advances addressing transport and last mile delivery are still in the conception phase.



What is real estate's role in the urban supply chain?



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HELPFUL DEFINITIONS OF TERMS USED IN THE REPORT:

Urban logistics:

the final stage in the distribution of goods to consumers living in urban areas, sometimes referred to as “last mile delivery”

Urban logistics facility:

a dedicated last mile cross-docking warehouse used for the transfer of goods from one mode of transport to another

eCommerce:

business-to-consumer (B2C) goods purchased online

3PLs:

third party logistics providers

eRetailing:

the online sale of goods from businesses to consumers (B2C)

EXECUTIVE SUMMARY

As Europe's population increasingly succumbs to the convenience of online shopping, the ongoing structural shift from retail to warehouse space is gaining momentum. At the same time, eCommerce is reshaping the European logistics property sector to include multiple asset types. This report focuses on an emerging property sub-sector: urban logistics.

With eCommerce consumers concentrated in cities, last mile deliveries are more often than not urban. The cost of urban deliveries is high – up to 50% or more of total supply chain costs in Europe. For the moment, real estate solutions are situated on the outskirts and at best, on the rims of cities, unable to enter cities due to competing higher value land uses and city stakeholders' opposition to logistics.

Developed through a collaboration between Cushman & Wakefield and P3 Logistic Parks, the "Urban Space Model" quantifies total urban logistics space requirements in Europe's top eCommerce markets based

on current and future online sales volumes. Since higher urban density equates to greater impediments to logistics land use, there is currently a wide gap between the model's estimates of required urban logistics space and actual space.

Investors and eCommerce occupiers are keen to acquire one of the few brownfield sites that offer 30-minute drive time access to inner cities. Many of these properties are older and in many cases, had formerly been considered functionally obsolete. Their strategic locations has revived them as "first generation" urban logistics facilities. However, what is the longer term outlook for these properties? How will these locations evolve? What form will urban logistics take inside cities?

This report offers our opinions, insights, and perspective on these questions while also tackling the real estate sub-sector conundrum called urban logistics.

INTRODUCTION

Urban logistics real estate is receiving a lot of attention in the media and from investors. This makes a lot of sense given that the global cost of last mile delivery is as high as €70 billion and is expected to grow between 7-10% over the next five years in mature markets such as the UK and Western Europe. Urban logistics' sizeable share of total supply chain costs can be 50% or more in Europe, makes it a priority for those seeking to gain a competitive advantage. However, at the same time, the challenges facing eRetailers and parcel companies can be numerous and complicated.

Demographic trends point to an increasing concentration of last mile deliveries in urban areas. This is especially true in Europe, where three quarters of the population live in cities. Urban logistics, or the movement of parcels and goods within cities, is not new. Existing networks serving bricks-and-mortar high street shops are still in place but must now be reconfigured to accommodate multiple delivery destinations (i.e. shops, delivery points, and customers' homes). Direct contact with customers differentiates the eCommerce supply chain from others, making it customer- rather than business-driven, which has had a direct impact on the urban portion of the supply chain.



In response to evolving customer expectations, urban logistics solutions are increasingly emphasizing shorter distances (in drive time) between warehouses and inner city delivery points (i.e. customer, parcel depot, and store). At the same time, real estate solutions to the last mile are not clear. Available land for logistics use is limited at best and in some cities, based on current zoning, does not exist. For the real estate community, urban logistics is a hard, but necessary egg to crack.

“

There is only one boss.
The customer. And he
can fire everybody in the
company from the chairman
on down, simply by spending
his money somewhere else.

**Sam Walton,
Founder of Walmart**

ONLINE SALES IN CITIES WILL CONTINUE TO GROW

With urban residents accounting for the largest share of internet users, eShoppers, and therefore, online purchases, the attention on last mile delivery will be increasingly focused on cities. According to the latest UN figures, 55% of the world's population currently live in urban areas, and by 2030 this number is expected to reach 60%. In Europe, already 73% of the population reside in cities which is expected to increase to 77% by 2030.



73%

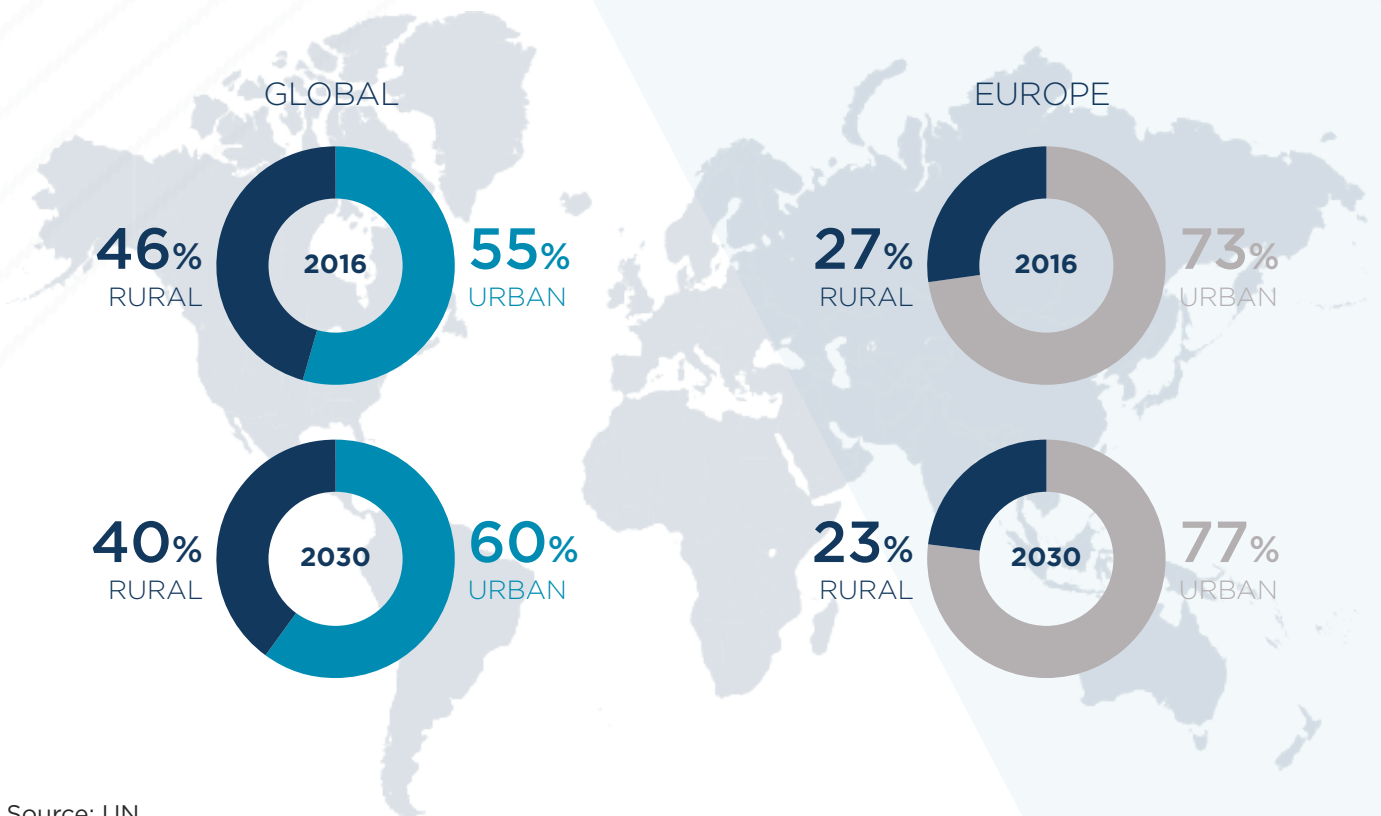
OF EUROPE'S POPULATION CURRENTLY LIVE IN URBAN AREAS

.....
EXPECTED TO REACH



77% BY 2030

ONLINE SALES IN CITIES WILL CONTINUE TO GROW



Strong eCommerce growth over the foreseeable future will continue to increase the Business to Consumer (B2C) segment's market share. Ten years ago, B2C made up 40% of the market, but has since exceeded 50% in the UK, Germany, and France.

Growth forecasts for B2C online sales over the next five years point to an urgent need for last mile solutions and more specifically, given Europe's demographic trends, urban logistics. According to the Centre for Retail Research, online sales across Europe amounted to €232.6 billion in 2016 and is expected to rise by 94% to €450.2 billion by 2021. These figures equate to a compound annual rate (CAGR) of 14%. On a country level, online sales are growing the fastest in Spain (19% CAGR) and the slowest in the UK (just under 10% CAGR).



B2C IN THE UK, GERMANY, AND FRANCE EXCEEDS

50%

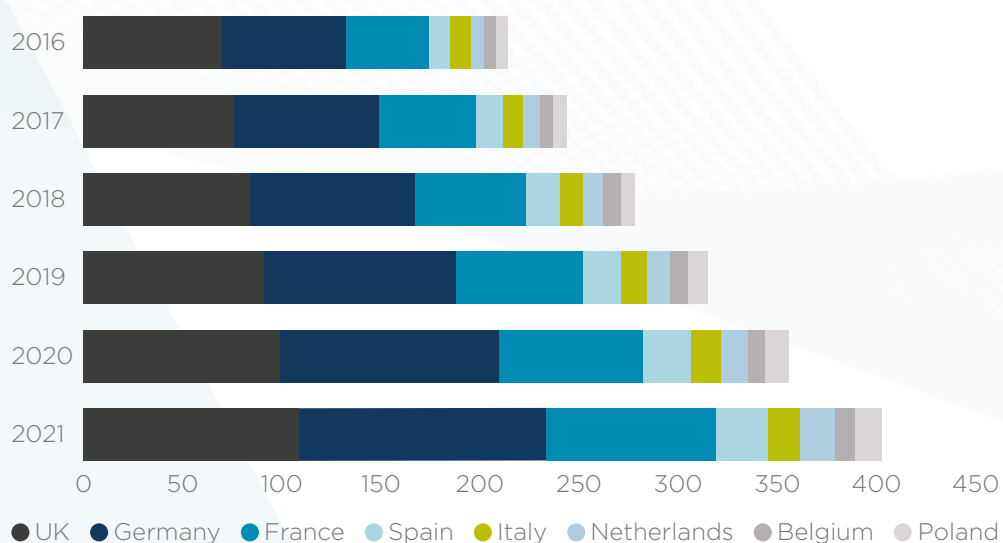
OF THE MARKET



ONLINE SALES ACROSS EUROPE EXPECTED TO RISE BY

94% BY 2021

ONLINE RETAIL:
5-YEAR GROWTH FORECASTS BY COUNTRY, 2016-2021



Source: Centre for Retail Research

URBAN SPACE MODEL

To address last mile deliveries, eRetailers and parcel companies are formulating strategies based on the number of parcels flowing through their urban supply chains. For occupiers, parcel volumes currently determine urban logistics daily requirements.



Developed through a collaboration between P3 Logistic Parks and Cushman & Wakefield, the “Urban Space Model” forecasts a 69% increase in parcel volume across Europe by 2021. Spain is expected to more than double (102%) its parcel volume over the same period, while flows in the UK will grow at a slower rate of 43%.

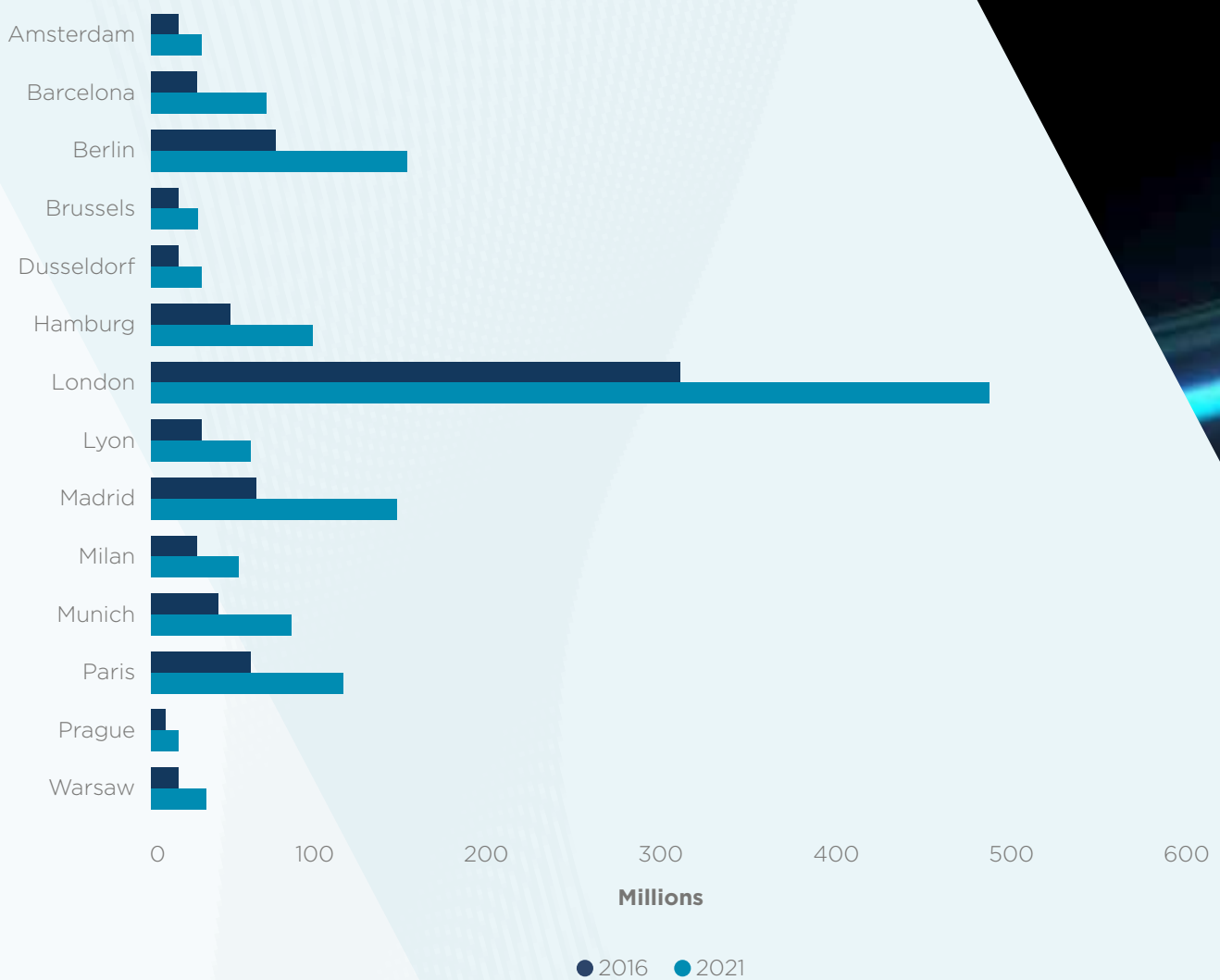


69% INCREASE

IN EUROPEAN PARCEL VOLUMES BY 2021

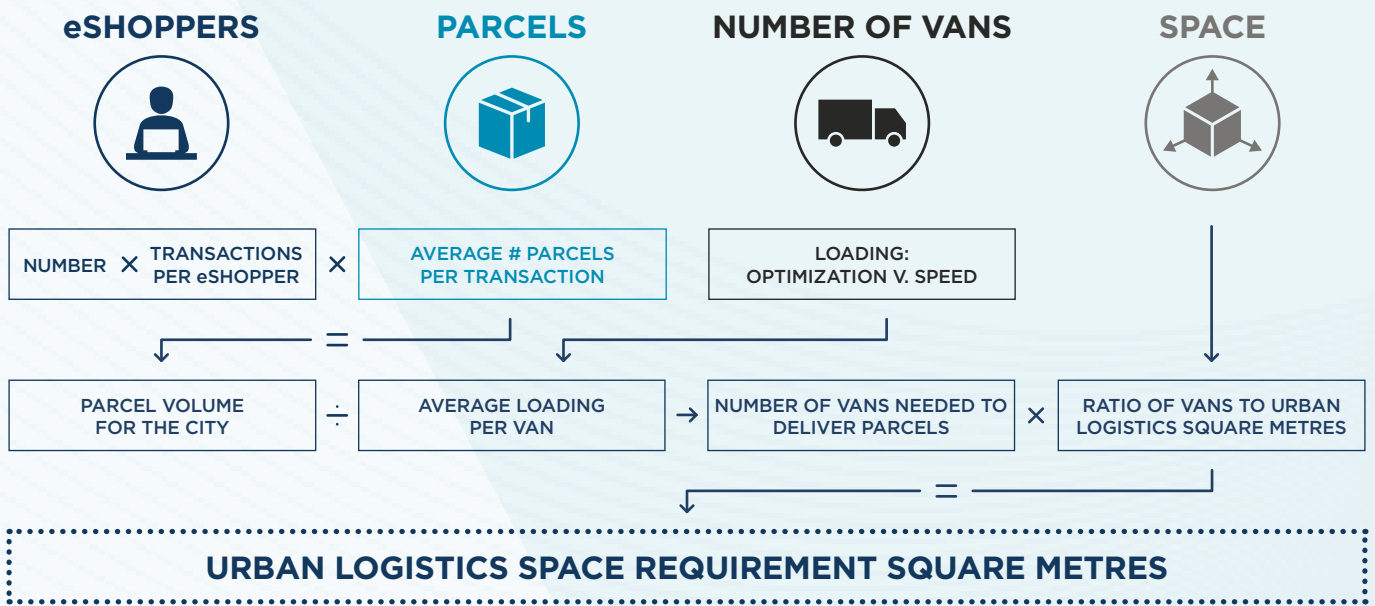


eCOMMERCE PARCEL VOLUMES BY CITY 2016 & 2021



Source: P3 Logistic Parks and Cushman & Wakefield

To highlight the urgent need for suitable space, the Urban Space Model² quantifies total urban logistics space requirements in Europe’s leading eCommerce markets based on current and future online sales volumes. The model’s methodology includes a number of inputs and assumptions based on actual urban logistics practices and current online transactional data.



Working around the known ratio of vans to urban logistics m², the model connects eCommerce volume inputs such as spending per eShopper and average number of parcels per eShopper to average number of parcels per van per day based on two different van loading strategies: **(1)** optimising van space (primarily 3PLs) and **(2)** prioritizing delivery speed (primarily eRetailers).

The model employs country level inputs that are adjusted using city level weightings for both density of population and buying power to determine urban logistics requirements at a city level. Country level inputs in our model include the number of eShoppers per country, transactions per person, the number of vans per warehouse m², and an estimate of average van loading. City weightings take into account both population density and buying power.

² Data and assumption sources for model inputs include: Centre for Retail Research, Eurostat, Oxford Econometrics, UPS, P3 Logistic Parks, and Cushman & Wakefield.

URBAN SPACE MODEL OUTPUTS

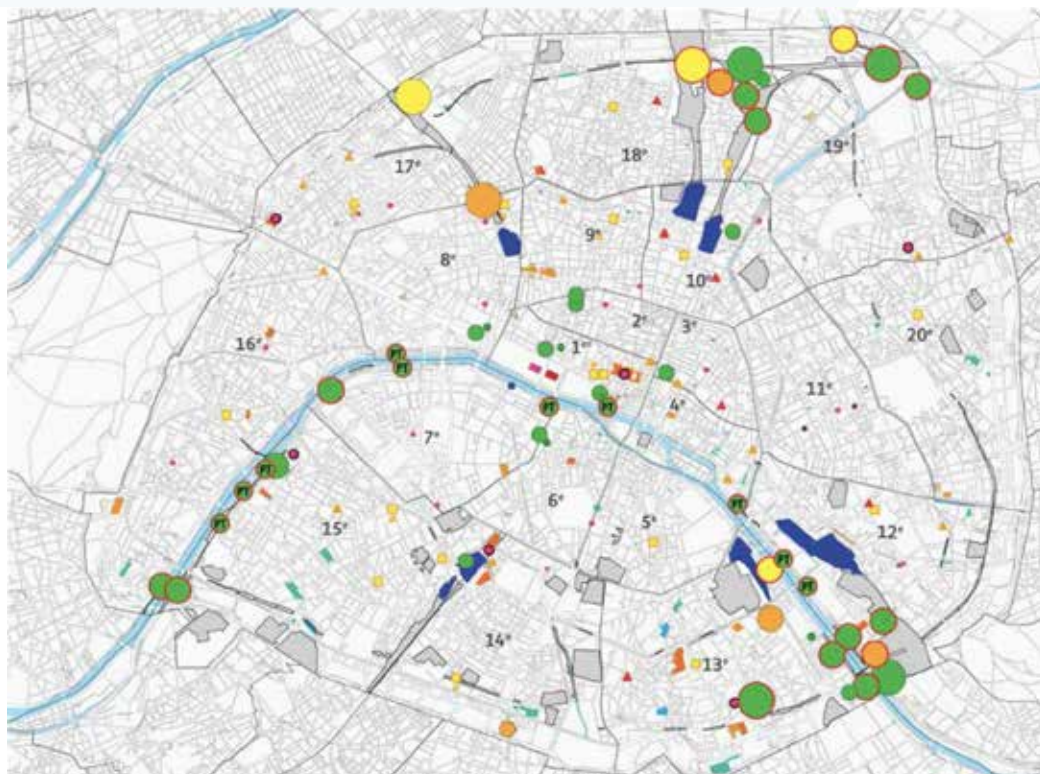
The Urban Space model's outputs assume the availability of suitable space or sites within a 30 minute drive time to urban delivery points. As such, the model's calculations of required space per market can be used as a benchmark to measure the gap with actual urban logistics space.

In Europe's major eCommerce markets, there is a wide gap between the model's estimates of required urban logistics space and actual space. Narrowing this gap requires time and financial investment to address the barriers to logistics use in cities such as limited supply, land constraints, competing higher value land uses, and the general opposition from city stakeholders to logistics use in urban areas. To what extent real estate is incorporated into urban supply chains will depend on how well private and public sectors are able to work together. Some cities are further along in incorporating designated urban logistics zones in their city plans such as Berlin, Brussels, Paris, and Madrid (see below).

URBAN LOGISTICS USES IN PARIS

- Existing urban logistics use
- Planned urban logistics use

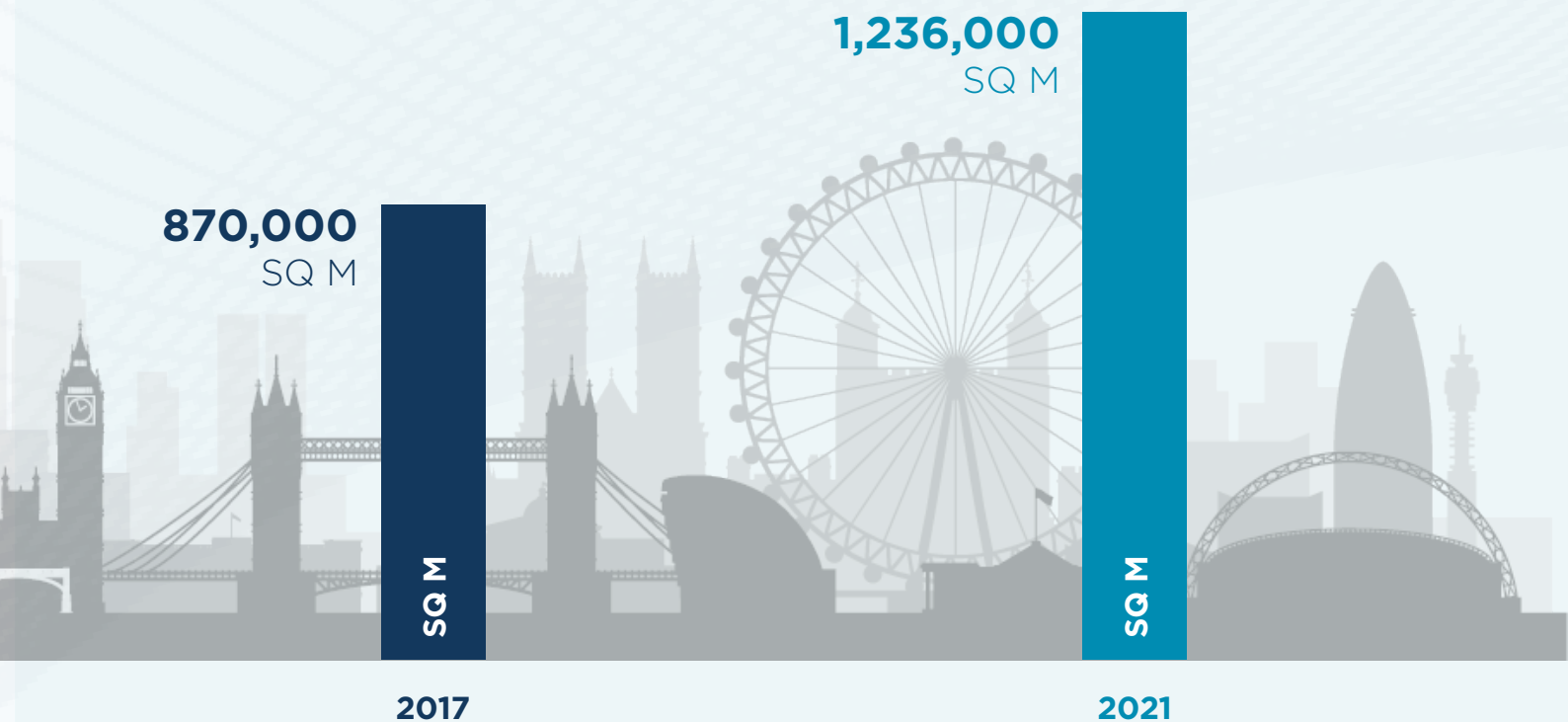
- <1,000 m²
- <20,000 m²
- >20,000 m²



Looking at the model's estimates, London stands out with a current total urban logistics space requirement of almost 870,000 m². In terms of population and buying power, London is the largest and most mature eCommerce market in Europe. According to the Centre for Retail Research, Brexit, and market maturity will contribute to slower eCommerce growth in the UK. Required space in London is expected to reach 1.2 million m² in 2021, an increase of 43% – the slowest pace in Europe.

In contrast to London, less mature eCommerce markets on the Continent with significantly lower urban logistics space requirements will benefit from strong online sales growth that will, in turn, fuel increasing levels of demand for space. Based on eCommerce growth estimates, required square metres will more than double (102%) in Madrid and Barcelona over the next four years. Warsaw, a relatively small eCommerce market that has outperformed growth estimates in eCommerce volumes over the past couple of years. Urban logistics space requirements are currently only 43,000 m² but are expected to expand by 90% to 82,000 m² by 2021.

URBAN LOGISTICS SPACE REQUIREMENT IN LONDON



Source: P3 Logistic Parks and Cushman & Wakefield

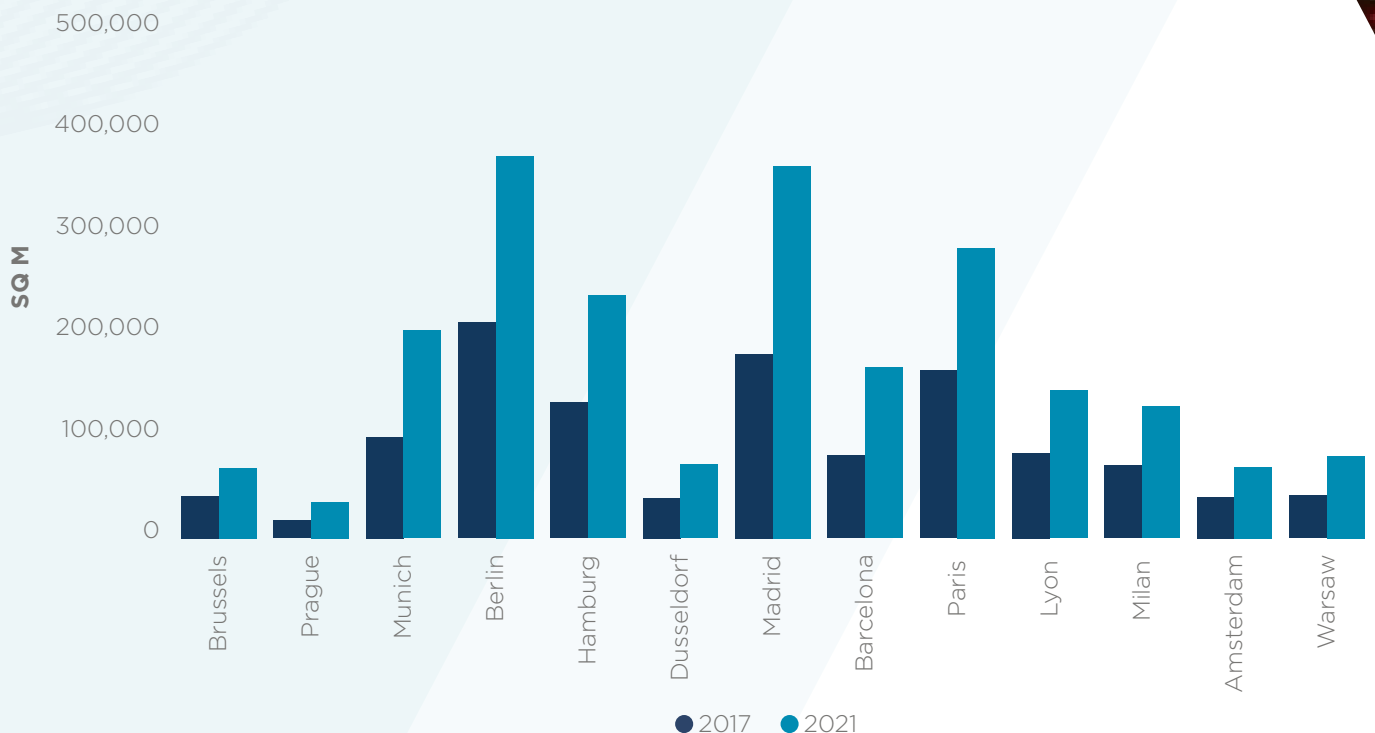


102% INCREASE

IN THE SPACE REQUIREMENT
IN MADRID

After the UK, Germany is the next key eCommerce market in Europe in part due to its multiple major cities, but also to its head start on the online shopping trend. Global eCommerce retailers targeted Germany as a launching pad for their businesses in continental Europe. Current urban logistics space requirements range from 42,000 m² in Düsseldorf to 210,000 m² in Berlin. Required space in all German markets is expected to grow by 77% by 2021.

URBAN LOGISTICS SPACE REQUIREMENT IN SELECT EU MARKETS

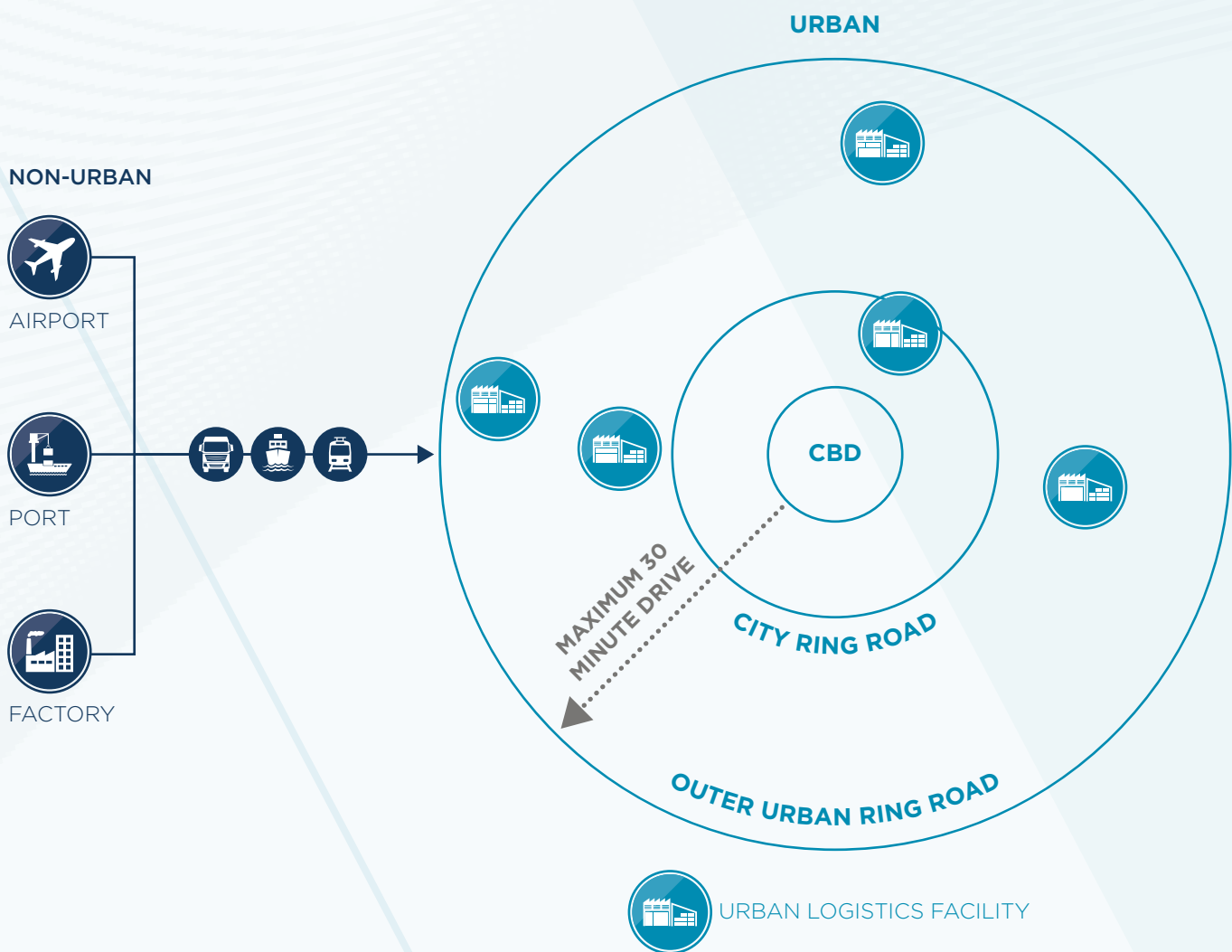


Source: P3 Logistic Parks and Cushman & Wakefield

WHAT IS URBAN LOGISTICS REAL ESTATE?

Despite the strong interest in this new property sub-sector, the definition for urban logistics real estate is poorly understood. The market's confusion with regard to a clear definition of the real estate that serves urban logistics activities is indicative of:

- A** The early stage of development for this real estate sub-sector;
- B** A marked gap between demand for suitable space and the markets' ability to deliver such space; and
- C** A broader definition of "urban" when referring to urban logistics.



As the diagram on page 16 illustrates, most major cities are comprised of three zones of increasing urban density. While restrictions regarding logistics use varies city by city; in general, higher urban density equates to greater impediments to logistics land use. Real estate solutions are primarily concentrated in urban zone 1 - between a city's inner and outer ring roads and where possible, in denser urban areas on the edge of cities - urban zone 2.

ZONE 1 LARGER URBAN AREA

Logistics platforms as points of entry that are located between 5 and 10 kilometres outside of cities.

ZONE 2 MODERATE DENSITY BUILT AREAS

Consolidation centres on the edge of cities that are currently planned to take the form of logistics "hotels", freight terminals, and other solutions.

ZONE 3 HIGH DENSITY BUILT AREAS

Urban delivery centres located inside cities that are currently in the form of "click & collect" points in existing shops, collection points such as lockers, and "virtual" warehouses served by a fleet of electric bikes.

URBAN ZONE 1

eCommerce supply chains become urban at the point where bulk haulage is transferred to vans. The required cross docking facilities and last mile depots are located in urban zone 1, within a 30 minute drive time to inner city delivery points – approximately five to ten kilometres from city centres.

Lack of available, developable land in zone 1 of Europe's major urban centres has obliged occupiers to pursue solutions in existing, often older properties. Properties range in size between 3,000-7,000 m² on average across Europe. While older properties can present several inefficiencies for the unloading of semi-trucks, loading of vans as well as the storage of goods, proximity to inner city delivery points is the top priority for 3PLs, eRetailers, and parcel companies. In a number of cases, older buildings are refitted to include a fresh, new façade.

CITY POINT

Built in the 1970s, City Point in Warsaw, Poland got a new lease of life when it was refitted to serve as an urban depot. City Point is a former Soviet block era warehouse constructed as a storage facility on what was Warsaw's city edge. Located only seven kilometres from Warsaw's city centre, City Point came out of obsolete status in 2008 when UPS decided to locate their urban logistics

operations in the warehouse. The 10,500 m² building has no dock doors, but ramps were added for vans to enter the building for parcel loading. Currently, five other tenants have opted to lease space at City Point despite its low ceilings (6-6.3 m high), missing sprinklers, outdated firewall widths, and low floor loadings (2 tons per m²).

To the extent that land is obtainable within a short drive time to delivery points in cities, eRetailers and parcel delivery companies might prefer building a new dedicated facility using a design that optimizes their business model.

eRetailers like Amazon, who are building their own supply chain networks across Europe while also striving to tackle the final link(s) in the supply chain, would emphasize both product stocking and speed of delivery in their building specifications.

By contrast, parcel companies, that do not stock parcels, instead focusing on sorting, daily deliveries of parcels, and optimizing van loading, would emphasize a long narrow design.

FLEXE.COM

In the US, Flexe.com offers a real estate solution through the subletting of unused space in existing warehouses which could easily be adapted to Europe.

In less than five years, Flexe.com created a marketplace for leasing spare storage space in 550 warehouses with merchants booking storage space via a simple-to-navigate website similar to Airbnb.

Flexe.com added online order fulfilment last year, giving warehouse operators the option to charge more to pack and ship individual orders directly to shoppers' homes. This type of solution is especially relevant for eCommerce start ups who have more difficulty predicting their warehouse space requirements from one year to the next.

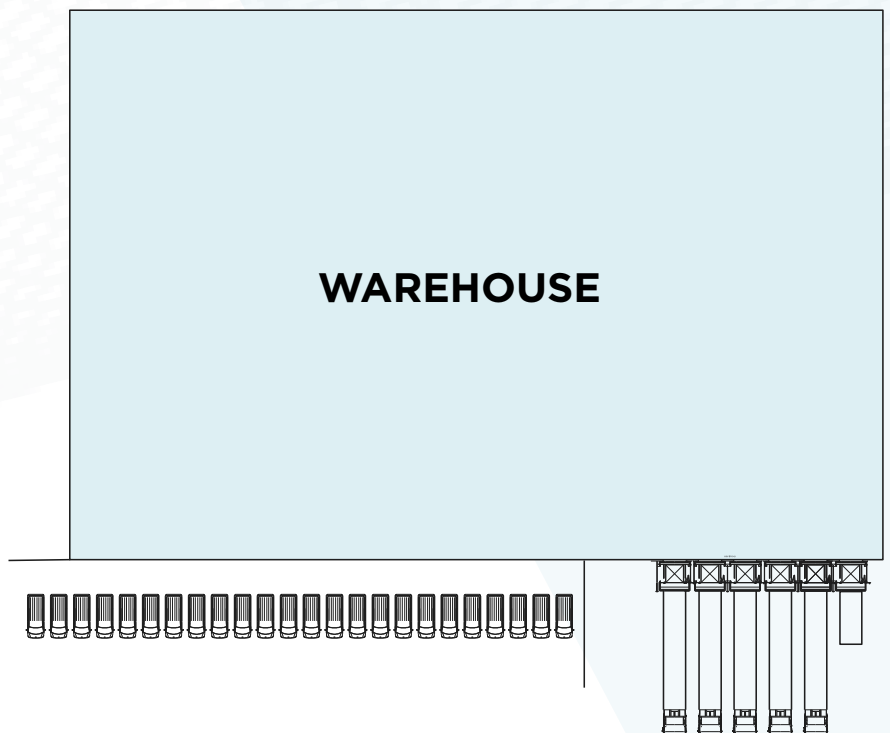
Longer-term, last mile real estate in urban zone 1 will likely evolve from the current “quick” solution to redevelopment of these locations. Dedicated urban logistics warehouses that maximize efficiencies will replace old warehouses.

New facilities will likely take one of two forms:

01 eRetailer Model

A rectangular warehouse ranging in size between 3,000-7,000 m², five dock doors for semi-trucks; raised floors to the level of vans, 6 m ceiling heights, and ample land for van parking and waiting.

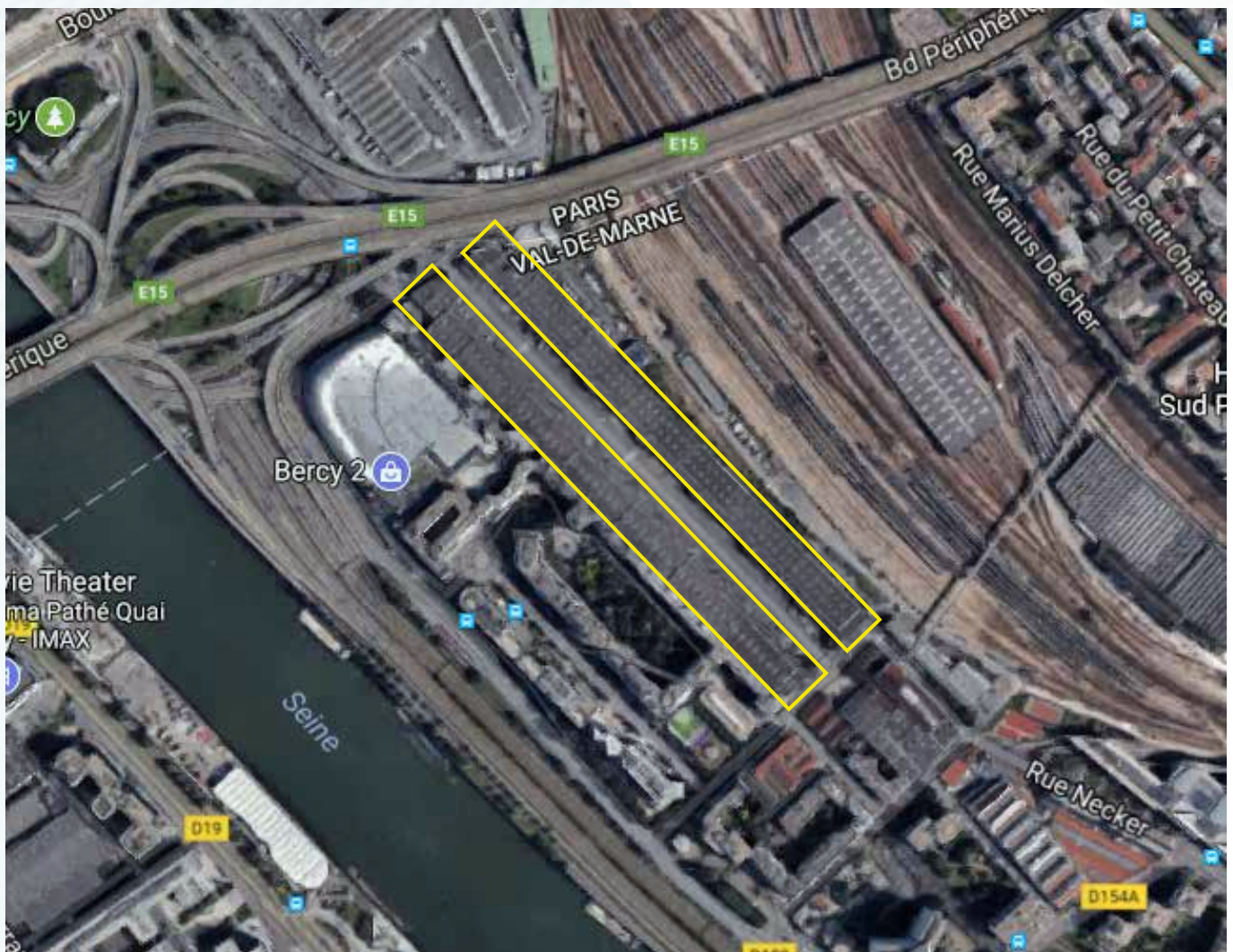
TYPICAL eRETAILER URBAN DEPOT



02 3PL/Parcel Company Model

A long narrow building ranging in size between 5,000-7000 m², five dock doors for semi-trucks; multiple dock doors on both sides of the building for externally parked vans, entry doors for vans to also be loaded inside; 6 m ceiling heights.

TYPICAL 3PL/PARCEL COMPANY URBAN DEPOT



ENTERING CITIES: URBAN ZONE 2

Due to competing land uses, there are few urban logistics real estate opportunities in dense urban areas on the edge of cities – urban zone 2. However, as logistics uses attempt to move closer to city centres, clashes with higher value land uses rise dramatically. Contributing factors include a host of social, economic and environmental challenges:

- Higher value land uses yield higher returns to property owners;
- Growing environmental concerns and developing regulatory responses;
- Growing consumer demands for convenience and service quality;
- Increased traffic volumes and congestion of public spaces (i.e. curb spaces for loading and unloading);
- Emergence of new distribution channels and growing complexity of goods;
- Incorporating innovation into already complex urban supply chains;
- Wide array of stakeholders involved in policy planning process (government, transporters, residents/consumers, businesses, etc.) with often diverging views about the role of logistics in the city's future.

The feasibility of inner city real estate solutions to enable last mile deliveries depends on how well public and private sectors are able to work together. To stay competitive, attractive and environmentally friendly, cities must participate in solutions that reduce the cost and difficulties of urban logistics.

A handful of real estate companies are working in partnership with cities to provide eCommerce retailers and parcel companies with solutions that can facilitate further the urban movement of goods:

SEGRO

Within London’s M25 orbital motorway, brownfield sites offering easy access to the city centre are extremely scarce. So when SEGRO, one of Europe’s leading logistics and warehousing providers, started to pursue an urban logistics strategy within London, they encountered another obstacle, competing land uses, which has accelerated the erosion of strategically located brownfield sites. SEGRO recognized the need to lobby policy makers for last mile logistics use and in doing so, has proposed mixed-use solutions that co-locate and intensify land uses, in some instances combining residential and urban logistics. Projects vary depending on a site’s zoning, size, and location, and can take the form of side by side development or potential multi-level development.



NESTLÉ HAYES SITE

As part of SEGRO’s Growth Plan, SEGRO purchased the 30 acre former Nestlé plant in Hayes, West London in 2016. Together with residential development company, Barratt London, Segro is currently seeking planning consent to redevelop the brownfield site for both logistics and residential uses. The submitted proposal includes approximately 21,400 m² of modern industrial and urban logistics alongside 1,200 residential units. “Careful and creative design and landscaping will separate the uses, making it possible for logistics activities and residents to co-exist.”



CITY OF PARIS AND SOGARIS

In contrast to London, the city of Paris anticipated the need for logistics uses inside its perimeter motorway which has helped facilitate the development of last mile real estate solutions. As part of a larger re-urbanization plan, city officials identified former rail or brownfield locations for urban logistics development in the three urban zones noted above:

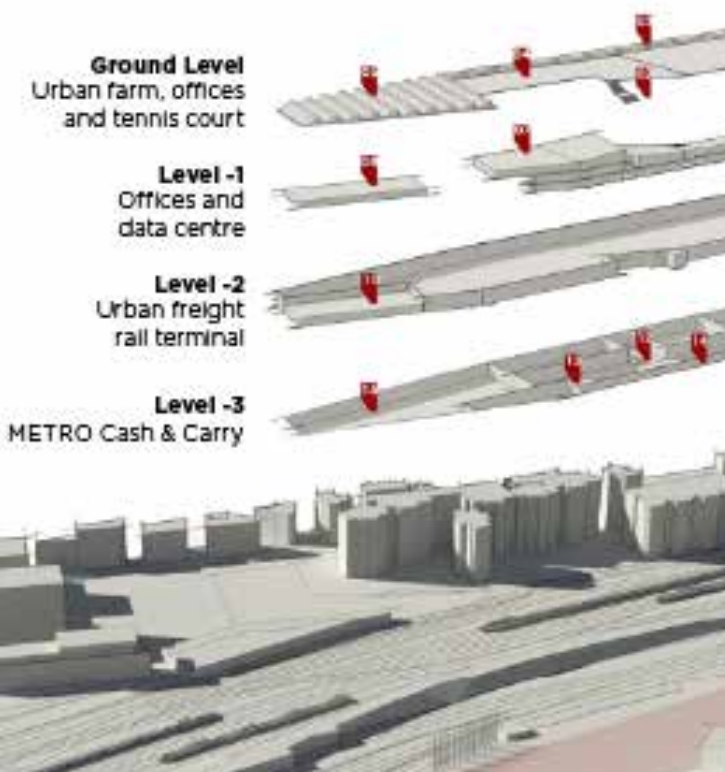
1. Larger urban areas
2. Densely built areas on the edge of the city
3. Highly dense urban areas



CHAPELLE INTERNATIONAL LOGISTICS HOTEL

Publicly owned logistics property development company, Sogaris, is currently building Paris’ first urban logistics project located near Porte de la Chapelle, north of the city centre and just inside the perimeter motorway. On former rail land, “Chapelle International Logistics Hotel” will combine 6,000 m² of low-rise office space, an urban “farm”, and tennis courts on the ground level with three underground levels. Underground space includes a 5,000 m² data centre on level -1; a 16,500 m² urban logistics freight rail terminal on level -2, and a 15,000 m² METRO Cash & Carry on level -3.

A rail shuttle to be operated by publicly owned Eurorail on publicly owned SNCF rail tracks, will transport 40-80 containers twice daily between the cluster of distribution centres located along Paris’ outer ring road and Chapelle freight terminal run by 3PL, XPO Logistics. Despite the project’s name, a commercial use (food retailer, METRO), prevailed over a planned urban logistics depot on level-3, demonstrating the real challenge to incorporating logistics in cities.



P3 LOGISTIC PARKS

The development/investment company, P3 Logistic Parks, is in the process of rolling out a pan-European urban logistics strategy in response to growing customer demand. The company is initially focusing on the first link in the urban supply chain by acquiring and refurbishing existing older stock with good access to city centres. Given the large gap between suitable stock and eCommerce requirements in major Western European cities, a multi-city approach identifies opportunities to fill this hole on a larger scale. In the medium term, P3 Logistic Parks plans to pursue innovative urban solutions through joint ventures which could include mix-use schemes.

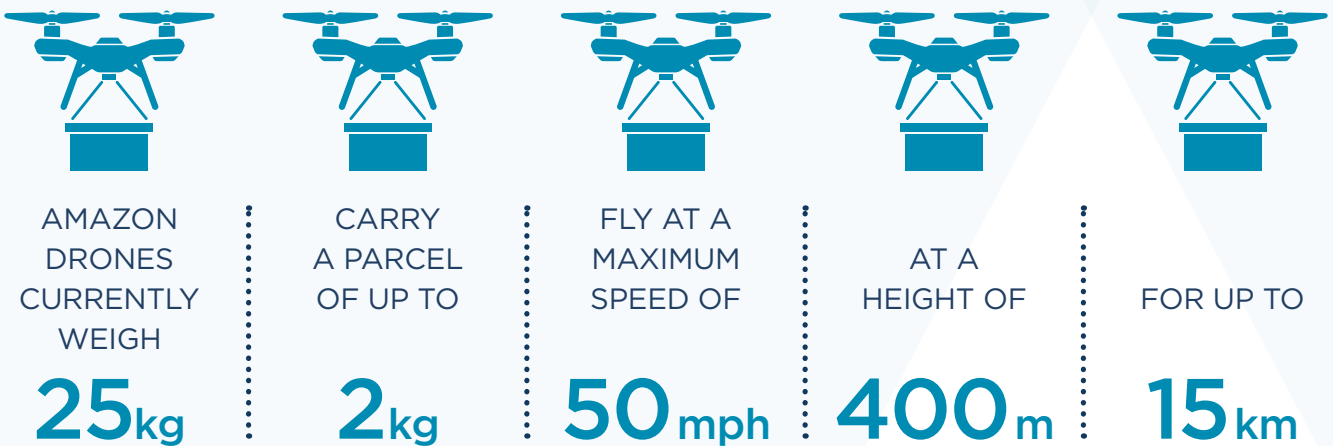


INNOVATIVE SOLUTIONS TO LAST MILE DELIVERY

Technological innovations and other creative solutions to last mile deliveries are still in the conception phase. For the most part, technology is addressing efficiency and speed of last mile deliveries. Trailblazers such as Amazon are introducing new ideas, some more feasible than others.

The adoption of technological solutions for deliveries in dense urban centres will be based on their safety, reliability, and cost of operation. Some innovations such as semi-autonomous and eventually, autonomous vans are very gradually replacing a portion of standard vans, however on what scale this will happen depends on the cost and regulatory environment. Drones - both flying and ground, if adopted, are likely to be limited in their application for similar reasons.

Flying drones are currently being tested in the UK by Amazon



However, a drone's current weight limit of 2kg limits its immediate use of drones to a very small share of total last mile deliveries.

More important concerns focus on the use of drones in Europe's dense urban centres. Amazon's drone, or similar, requires a 2 m² landing area that can neither be on a sidewalk or road due to high collision risk with either a person or a car. Furthermore, the costly network necessary for operating drones that includes a mini-airport (or control centre), high-tech equipment, and "pilots", will likely be passed onto customers who, according to industry surveys, prioritize delivery cost over speed.

To the extent that technology, is and will increasingly be, incorporated into last mile delivery networks, current older properties run the risk of functional obsolescence. The current priority for eRetailers and parcel companies is to obtain one of the few available sites in urban zones 1 and 2. However, over the long term, dedicated urban logistics facilities that optimize warehouse operating efficiencies will replace older properties.

While these locations are scarce, their highest and best use is likely to change over time to either a dedicated urban logistics warehouse, a mixed use scheme, or a higher value use such as residential. Adding use versatility to scarcity and strong demand, the long-term viability of these locations supports strong rental growth potential and value retention.

“

You've got to start with the customer experience and work back toward the technology, not the other way around.

Steve Jobs

Co-founder of Apple

“

We must ensure that technology is accessible, affordable, and adds value.

Narendra Modi

Prime Minister of India

PRICING “FIRST GENERATION”¹ URBAN LOGISTICS FACILITIES

In Europe’s largest eCommerce markets, urban logistics has been the focus of the latest bidding wars for old industrial estates and assets that offer proximity to inner cities in terms of distance and drive time. As a consequence, yields for these assets and brownfield sites have compressed dramatically over the past two years, with levels for more recent transactions on par with traditional modern distribution warehouses. Aside from the broad assortment of properties included on the list below, yields for properties targeted for urban logistics occupancy range between 5-7.5% depending on the country, city, distance, access, and property adaptability.

.....

GREATER LONDON, STAPLES CORNER

THE OXGATE CENTRE

Description

Trade & industrial warehouse; let to 8 tenants; 7,432 m²

Net Investment Yield

6%

Date Acquired

Q3 2015

.....

GREATER LONDON, WOKING

ORCHARD BUSINESS PARK

Description

Multi-let estate; 5 miles from J11 of the M25, 6 units; 7,060 m²

Net Investment Yield

5.25%

Date Acquired

Q2 2017

.....

GREATER LONDON, KINGSTON-UPON-THAMES

CHESSINGTON PARK INDUSTRIAL ESTATE

Description

10 units – largest 3,500 m²; let to 8 tenants, 8,862 m²

Net Investment Yield

4.96%

Date Acquired

Q4 2016

.....

GREATER LONDON, ASHFORD

ASHFORD BUSINESS PARK

Description

Multi-let estate let to 2 tenants; 7,619 m²

Net Investment Yield

6.46%

Date Acquired

Q1 2016

.....

PARIS, AULMAY SOUS BOIS LE BLANC MESMIL

GARONOR

Description

Industrial estate sold as part of a portfolio – 750,000 m²; Garonor portion 619,200 m²

Net Investment Yield

7.5%

Date Acquired

Q2 2014

.....

PARIS, BERCY, 12TH ARRONDISSEMENT

PARC ESCOFFIER

Description

Leased to Geodis and UPS; 28,000 m² with 47, 490 m² units

Net Investment Yield

5.5%

Date Acquired

Q3 2016

Source: RCA & Cushman & Wakefield

¹ “First generation” implies that this property type will evolve over time



MILAN CITY, SOUTH EASTERN EDGE

VIA TOFFETTI

Description

Near Rogoredo rail station;
35% leased to Amazon; 65%
vacant; total of 11,000 m²

Net Investment Yield

7%

Date Acquired

2016

AMSTERDAM, SCHIPHOL-RIJK

BELLSINGEL

Description

Near Schiphol airport,
6,899 m² leased to TNT
express for urban logistics

Net Investment Yield

7.4%

Date Acquired

Q2 2016

Over the medium-term, yields for strategically located warehouses and brownfield sites in urban zones 1 and 2 currently appear sustainable due to supply scarcity and strong demand for urban logistics space. Taking into account that the current priority for eCommerce retailers and parcel companies is proximity and access, the age and configuration of these properties is a secondary concern.

In fact, many of these recycled and refitted older warehouses were considered obsolete only a few years ago. Developed in phases over several decades, Paris' Garonor industrial park had been struggling to retain tenants in its older properties for over 20 years. Spotting its potential as an urban logistics location, Logikor purchased the park as part of a larger portfolio in 2014 for a 7.5% yield. The park offers direct motorway access within 30 minutes to Paris and Charles-de-Gaulle airport. Today, several eRetailers occupy older warehouses in the park including Monoprix.fr and Amazon.

INNER CITY DELIVERY METHODS: NOW AND IN THE FUTURE

A number of delivery methods are currently employed between last mile depots and inner city delivery points. In terms of driving time and cost, methods that guarantee delivery are the most efficient. Such methods include stores offering click and collect; collection points including lockers; and offices with someone to receive the parcel. By contrast, due to the high frequency of failed first attempt deliveries – as high as 60% – home deliveries are not efficient. Reprogramming deliveries results in additional costs as well as unsatisfied customers.

The role of bricks-and-mortar retail shops is already expanding to include urban distribution and collection. In an increasing number of stores, a portion of retail and stock space is being converted to click & collect. When it comes to fresh foods, perishability places high value on proximity to customers. Online grocery orders are being picked at and delivered directly from existing inner city supermarkets. Amazon's recent acquisition of WholeFoods in the US is a strategic move into the online grocery market using an existing network of urban distribution centres (i.e. supermarkets).

In a number of Europe's inner cities, "virtual" warehouses are being set up in underground parking complexes. In Europe's most congested inner cities, companies such as UPS are introducing electric bicycles for final deliveries. Functioning as inner city cross docking centres, virtual warehouses are currently being used to transfer goods from vans to a fleet of electric bicycles. While adding an additional link to the urban supply chain, this delivery method addresses simultaneously the need to reduce van driving time and customers' preference for home delivery – 95% of customers in the UK, 87% in Germany, and 80% in France. Sheer proximity to customers also enhances delivery flexibility.

URBAN LOGISTICS DELIVERY METHODS



URBAN

	VAN
	DELIVERY POINT/ LOCKER
	PARKING
VAN TO BUILDING	
	HOME
	SHOP/ CLICK & COLLECT
	OFFICE

“

Proximity carries the day,
functionality is still key,
and it's often about trade-offs.

Ben Conwell

eCommerce and Electronic Fulfillment,
Logistics & Industrial Services,
Cushman & Wakefield

CONCLUSION

In the coming years, should logistics use overcome the numerous obstacles to entering inner cities, a likely scenario could be that the “virtual”¹ warehouse becomes a “real”² warehouse. Furthermore, the inner city warehouse of the future may be underground replacing parking complexes that will no longer be necessary when cars increasingly become driverless. In fact, the current switch to electric vans already addresses city stakeholders’ opposition to inner city logistics as a contributor to noise and air pollution.

Moreover, a two link supply chain involving either a virtual or real warehouse allows vans to enter cities from last mile depots located in urban zone 1 at more optimal times. With one link urban supply chains (except in the case of lockers), vans must time this trip so that deliveries can be made when either customers are awake, stores are open, or someone is present to receive a parcel delivered to an office. A future shift from virtual to real warehouses would expand the function of this inner city distribution centre to include minimal storage of frequently purchased goods based on a particular postal code’s buying habits.

Proximity to final delivery points makes it easier for eRetailers and parcel companies to meet rising customers’ expectations in terms of speed and reliability of delivery while at the same time, reducing cost. For online retailers, higher rents for urban logistics space are justified when coupled with greater potential to increase market share. Low profit margins makes it difficult for online retailers to compete on product price, but strategically situated urban depots make it possible to compete on delivery, speed and convenience. Whatever form logistics takes in inner cities, proximity to customers through a second link in the urban supply chain could be a strategic way to increase market share.

¹ “virtual” warehouse: refers to non-dedicated space where logistics activities occur

² “real” warehouse: refers to a dedicated warehouse where logistics activity occurs

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