As logistics and distribution networks adapt to the rise in e-commerce use, a range of fulfilment models are emerging.







A SHIFT IN LOGISTICS TRENDS LINKED TO E-COMMERCE

1

Online shopping and e-commerce usage have grown significantly, with the pandemic accelerating this shift by up to five years.

2

Growth in Australia's online retail penetration rate is still at a relatively early stage, which presents a massive opportunity for the logistics sector.

3

The increase in e-commerce/online usage means companies will require more storage space and logistics delivery capabilities.

4

As demand for faster fulfilment rises, so will the demand for decentralised or urban infill locations to allow for faster last-mile delivery.



5

Grocery retailers looking to fill online orders more efficiently are rolling out new logistics solutions in a bid to ramp up their order volumes in urban areas.

6

Demand for urban locations has been driving up land values as industrial real estate use increasingly competes with other sectors, particularly residential for land opportunities.

7

The shift in logistics trends linked to the pandemic is generating new demand for compact or micro fulfillment centres.

8

Grocery retailers are driving MFC development, with the need for speed to market to create new demand in the urban fringes from pharma, health and manufacturing food and apparel will be quick to follow.

9

Areas undergoing gentrification, with land being rezoned from industrial to high density residential and mixed use, will stimulate interest in redevelopment opportunities to develop last mile facilities under the current zoning.

10

Investment in tech/ automation is changing occupier requirements and increasing the opportunity to repurpose or re-use underutilised space for lighter industrial use, mini-store or last-mile.

INTRODUCTION

New fulfilment models emerging.

A surging digital economy and technological advancements fuelled by a global pandemic have propelled e-commerce and online retail shopping into the limelight.

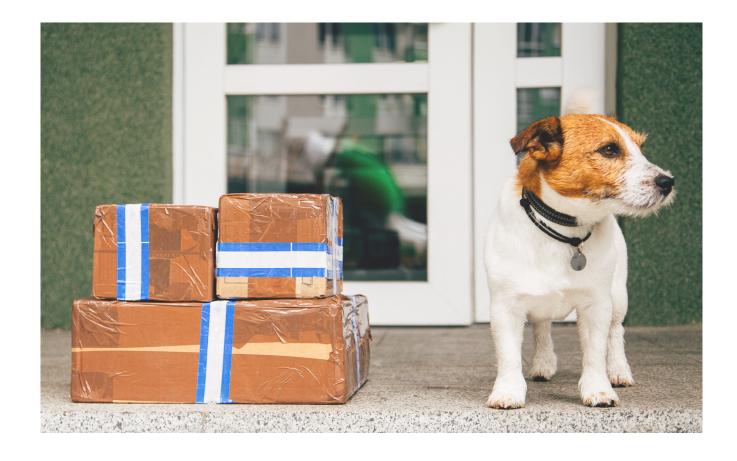
Amid historic e-commerce growth rates, the last mile has become a critical aspect of the supply chain. More businesses are competing to implement tech solutions, increase volumes and expedite delivery to the end-user, embracing the last mile as a key differentiator. As distribution networks adapt to optimise time sensitivities and costs, while meeting customer expectations, a myriad of distribution models have emerged, including dark stores, customer fulfilment centres (CFC), in-store fulfilment and, micro fulfilment centres (MFCs).

The location of the retailer to the consumer has become less important because goods ordered online are being delivered direct to the end-user. The pandemic has only amplified this channel shift, with consumers making fewer trips to the traditional retail store.

This expansion is putting pressure on distribution networks to implement greater efficiencies. It has also underpinned growth in the sector to the point that traditional distribution networks are needing to implement new technologies and supply-chain methods to meet capacity pressures and manage costs.

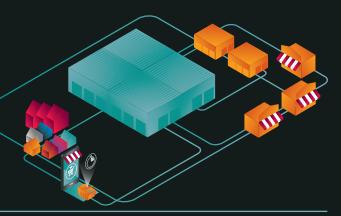
This means that industrial real estate use is increasingly competing with other sectors, particularly residential, for land opportunities in urban locations.

This report will firstly look at the emergence of new types of demand and the new type of stock being built, including MFCs, highlighting the increasing switch from traditional warehouse operations towards automation. It will then discuss how new technology is enabling growth and shifting occupier requirements. The report will also look at how the demand for urban locations is driving up land values, particularly in Sydney and Melbourne, before touching on the drivers behind the demand for these new facilities. As the evolution of online retail continues to drive the adaptation and adoption of innovative fulfilment strategies, the report will finish with a discussion of implications and opportunities for the sector.



Traditional Distribution Centres (DC)

– is a warehouse building that specialises in the storage and distribution of goods that are then redistributed to retailers, wholesalers or directly to the end customer. Depending on the retailer's return policy, the DC may also manage reverse logistics. As they often stock a vast number of products, they can be located in the outer traditional precincts, on or near major transport networks and range in size from 10,000 sqm to above 25,000 sqm.



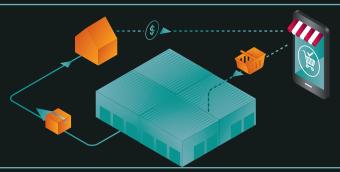


Reverse Logistics

 is the supply-chain that processes anything returning or travelling backwards through the supply-chain to the retailer. It can encompass anything from returned goods, inward disposal/ recycling of packaging materials, the recycling/ responsible disposal of materials from previously sold products, etc.

Customer Fulfilment Centres (CFC)

– is a warehouse building where a provider, often a third-party logistics provider (3PL), fulfils customer orders for e-commerce/online orders. This can be manually operated or automated. Typically located in or close to populated urban areas that they are servicing. They can range in size from 3,000 sqm and above, but are typically 10,000 sqm or above.



Dark Store

is a distribution centre or outlet that caters exclusively
to online shopping orders. It can appear like a
conventional supermarket or retail store or may be set
up like a warehouse market space. It can also be a
traditional retail store that has been converted for online
fulfilment only. They are typically located in or close to
populated urban areas that they are servicing.

In-Store Fulfilment

– is the ability to fulfil a customer online or click-and-collect order directly from traditional bricks-and-mortar retail store. Essentially shipping directly from a retail store location. Retail stores are typically located in or close to populated urban areas that they are servicing, in shopping centres or retail strips, but can be standalone.



Micro-Fulfilment Centres (MFC)

 is a small-scale or compact warehouse facility usually located in accessible urban locations close to the end consumer they are servicing. Designed to fulfil online orders, click-and-collect and home delivery using automation and vertical shelving.
 Typically housed at the back of existing stores in accessible urban locations.

EVOLVING SUPPLY CHAINS DRIVING DEMAND FOR URBAN LOGISTICS

From big sheds to small spaces, the changing complexities of occupier requirements.

RETAILERS RACE TO DEVELOP MICRO CENTRES WITH RAPID DELIVERY FULFILMENT

Accelerated online spending growth due to the pandemic has seen a shift in logistics trends linked to e-commerce, with retailers targeting the spoke model using automation to develop smaller but efficient distribution channels. This is generating new demand for urban logistics facilities.

During the pandemic, online quickly became the main channel for shopping. In some cases, this trend evolved into re-purposing redundant (or enforced closed) stores to fulfil the massive rise in online demand. In the early stages of the pandemic, Kmart converted three of their stores (Vic, NSW, Qld) into online fulfilment centres. Country Road, which also owns Witchery, used some of their traditional bricks and mortar stores as 'dark stores' during the pandemic, as did Accent Group, which owns Platypus and Athlete's Foot. Kmart has since gone on to announce it would be rebranding 80+ Target Country branches to Kmart's streamlined KHub brand. The closures and conversions, which are predominantly occurring through 2021, will make the stores smaller, and more digitally enabled.

In a separate play, Domino's Pizza recently announced it would be targeting its new store openings by taking over or buying vacant or underutilised retail or food stores in densely populated areas to encourage takeaway orders and reduce delivery times.

Major retailers already have the existing real estate infrastructure in place and therefore can scale up to provide automated MFCs, which are typically housed at the back of existing stores or in urban locations where space is usually at a premium.

In Australia, Woolworths has partnered with Takeoff Technologies and launched its first MFC in Melbourne at the back of an existing 4,300 sqm store in Carrum Downs. Woolworths plans to build another two MFCs in 2021, each is expected to be about 1,000 sqm and take three to six months to build.

Select Recent Lease Pre-Commitments

Occupier	Property	Precinct	Size (sqm)	Term (yrs)	Туре	Due
Coles	Motorway Business Estate, Redbank	Bris-South West	66,067	20	Automated DC	2021
Woolworths	Rochedale Motorway Estate, Rochedale	Bris-South East	10,600	10	Dark Store	2021
Coles	Midwest Logistics Hub, Truganina	Melb-West	28,287	U/D	Automated CFC	2022
Coles	Oakdale West, Kemps Creek	Syd-Outer West	66,067	20	Automated DC	2022
Coles	Horsley Drive Business Park, Wetherill Park	Syd-Outer West	30,000	U/D	Automated CFC	2023
Woolworths	Moorebank Logistics Park, Moorebank	Syd-South West	40,700	20	Automated DC	2024

Source: Knight Frank Research DC=Distribution Centre CFC=Customer fulfilment centre U/D=Undisclosed



As businesses expand their e-commerce capabilties, their warehouse and logistics requirements are growing and evolving, creating a huge opportunity for the industrial sector as provider of real estate.



DEMAND FOR URBAN LOGISTICS FACILITIES LED BY GROCERY GIANTS

Grocery retailers have been the first to experiment with urban logistics models and are leading this change as they double down on their e-commerce strategies to deliver online orders faster while competing for market share.

Both Coles and Woolworths have reported massive growth in their online sales. Coles reported 48% growth in e-commerce sales in their 2021 half yearly result, generating \$1.0 billion in sales revenue. Similarly, Woolworths reported \$1.8 billion in e-commerce sales and 91.8% growth rate over H1 2020. Woolworths also said that average weekly traffic to digital assets increased 62.4% to 20.2 million visits per week, as customers increasingly look to engage digitally as part of their shopping experience.

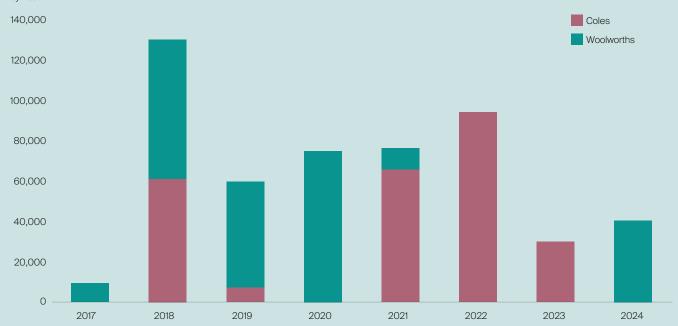
The expansion of Coles and Woolworths is clearly demonstrated in the industrial leasing take-up volumes recorded across Sydney, Brisbane and Melbourne over the last five years. Both retailers have been actively scaling up their e-commerce capabilities with a focus on creating supplychain efficiencies. They have commissioned various fulfilment and distribution centres often through lease pre-commitments on new developments. In the five years to 2021, more than 350,000 sgm of industrial and logistics space was leased to Coles and Woolworths on the east coast. A further 165,000 sqm is in the pipeline for completion in the next three years.

Typically, the older stock available in many of these markets is unsuitable for modern logistic design demands, for example, higher clearance or high bay warehouses for automated storage and retrieval, or to add more mixed-use space. While there remains demand for existing stock, or opportunity to

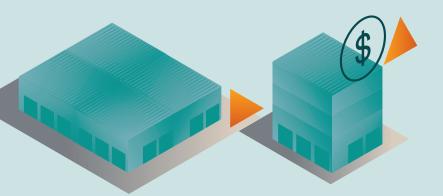
redevelop it, the demand for newer facilities built to purpose at the large-scale seen by Coles and Woolworths, and online giant Amazon, is contributing to the development of new stock on the east coast. Additionally, traditional bricks and mortar retailers such as Uniqlo and H&M, together with appliance, homeware and hardware retailers, are expanding their online capabilities due to the surge in demand.

Although smaller grocery retailers are yet scale to the same level, there are signs emerging with Aldi recently announcing plans to start selling some of its items online. Aldi is also planning to open smaller stores in urban locations and plans to launch an e-commerce offer to underpin the next stage of growth as it nears its original 600-store target.





Source: Knight Frank Research





A lack of large sites coupled with high land values has meant logistics providers must reduce building footprints to maximise the capacity of the site.



DEMAND FOR URBAN LOCATIONS DRIVING UP LAND VALUES

Strong demand for industrial and logistics facilities driven by the boom in e-commerce, coupled with yield compression has resulted in a pronounced uplift in industrial land values in urban locations in recent years. This has been particularly evident where there is a shortage of industrial-zoned (employment) land in the area.

In the Sydney and Melbourne markets, there has been rapid growth of land values in infill locations relative to the outer areas. While this may not have specifically been driven by the need for compact or micro fulfilment,

the growth divergence is a strong signal that developers are focusing on last-mile locations. To have presence in these infill locations enables retailers and logistics operators to be closer to their customer base, promoting short turn around delivery times. Additionally, urban fulfilment centres can be used to improve reverse logistic efficiencies, which is becoming more important as online retail expands.

The South Sydney market is one of the most sought-after infill locations given its proximity to Sydney CBD, Port Botany and Sydney Airport. In conjunction with the scarcity of acquiring sizeable land holdings, land prices (small lot sizes) in the precinct have surged over the last five years to average well over \$3,000/sqm, representing

growth of 127%. Over the last decade, growth of nearly 200% has been recorded, higher than any other precinct.

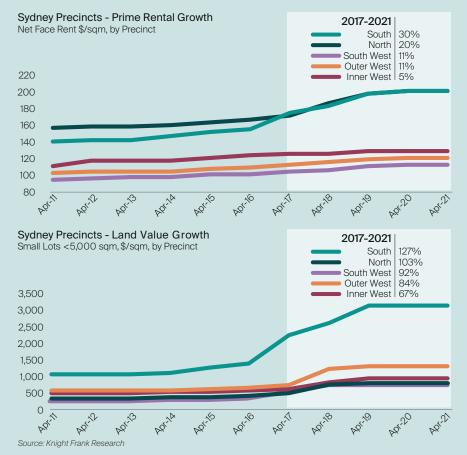
These growth rates contrast with Outer and South West in Sydney, where 75% of development activity is taking place, given land is more readily available. In these precincts, growth has been strong, albeit not at the pace of South Sydney with growth of 106% over the last five years recorded and 165% growth over the last decade to average over \$660/sqm (Outer West medium sized lots).

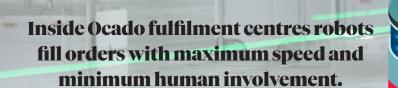
For logistics facilities to locate within or close to urban centres, they must compete with other land uses and utilise land more intensively. The scarcity and demand for infill locations is evident in the price disparity with South Sydney values priced at over a 300% premium compared to the Western Sydney precincts. Higher land values are encouraging developers to use the land more efficiently and the improvements in technology enable operators to make better use of vertical space.

GROWING PRESSURE FOR MULTI-LEVEL WAREHOUSING

A shortage of large sites coupled with high land values in many Australian markets has meant providers must begin to reduce building footprints to maximise the capacity of the site, driving the impetus for upward expansion and a strong case for multi-level warehousing. While this is widely accepted across Asia, it is scarcely seen in Australia to date.

The tallest facility in Asia is Goodman Interlink, a 24-level industrial warehouse in Hong Kong, that was built almost 20 years ago. Although zoning constraints in Australia are unlikely to see developers build to the same heights in the short-term, the pressure on land values, a strong e-commerce penetration rate and competition for warehouse space in urban precincts will see an increase in these developments in some capacity. Building vertically increases the available floor space for occupiers, potentially enhancing investor returns.





Although still in early stages in Australia, there are at least three groups looking to develop multi-level warehousing in Sydney and Melbourne. Last year, Logos started the development of Marsden Park Logistics Estate in Sydney's west, which includes a multi-level mezzanine to increase storage capacity and maximise footprint. Goodman has two multi-storey warehouses in planning stages in the South Sydney precinct, and expects to start work in the next couple of years on another at its Port Melbourne industrial site. Charter Hall acquired a Bunnings leased asset in South Sydney last year and has plans to develop a multistorey last-mile warehouse facility under the current zoning in the next few years.

With e-commerce growth fuelling demand for last-mile fulfilment, more multi-level warehouse facilities are expected in Australia in the next few years.

NEW TECHNOLOGY IS ENABLING GROWTH AND SHIFTING OCCUPIER REQUIREMENTS

Major grocery retailers are partnering with technology startups to speed up delivery times by moving more of the on-demand products closer to urban centres and in some cases, are building more compact centres to help meet rising order volumes and the growing demand for same-day delivery services. Growth in the number of these facilities is being supported by partnerships with tech groups.

Traditionally, online grocery orders have been picked the same way we shop in store. However, grocery retailers looking to fill online orders more efficiently are rolling out MFCs in a bid to ramp up their order volumes in urban areas.

As retail space has traditionally been at a premium in urban areas when compared to industrial or office space, micro fulfilment technology presents an opportunity to maximise efficiencies, while reducing footprint and cost. It can also promote the utilisation of potential 'dead space'. Some automated systems can process as many as 4,000 orders a week, helping the business to churn out orders by reducing manual picking and packing time, speeding up last mile delivery.

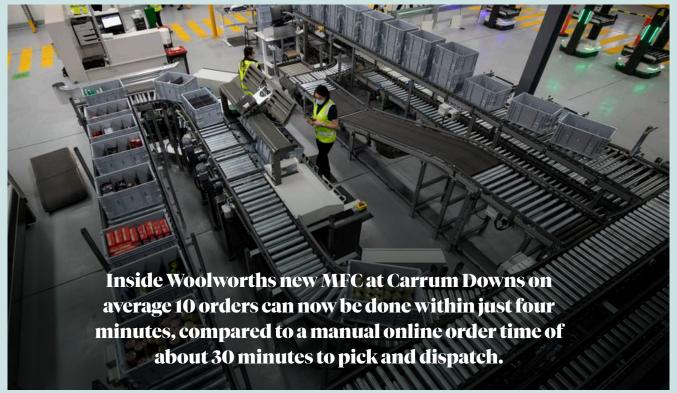


Image Top Source: Ocado Group via https://fortune.com/longform/coronavirus-pandemic-ocado-robots-warehouses-online-grocery/
Image Bottom Source: https://www.warehouseautomation.ca/news-notes-1/2020/10/8/down-under-supermarket-woolworths-speeds-online-orders-with-new-micro-fulfilment-3a8lc-5hktw

Major Drivers of Demand for New Facilities

1

ACCELERATED SHIFT TO ONLINE

While the adoption of online shopping was already underway pre-Covid, the pandemic has driven higher rates of e-commerce and online retail usage and bolstered demand for warehouse and distribution space across the country. In a recent example, Goodman Group reported a 14% rise in its e-commerce global development pipeline as it responds to changing consumption trends by developing new space particularly through multi-storey and higher intensity buildings within their urban locations.

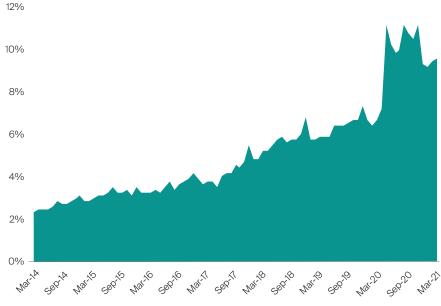
Last year, IBM said in its annual Retail Index report that "the pandemic had accelerated the shift to digital shopping by up to five years." Similarly, Microsoft's CEO Satya Nadella said in an earnings call that "we have seen two years' worth of digital transformation in two months."

Indeed, in Australia, recent yearly data shows that online retail sales have almost doubled since 2019 and spending levels remain close to the new baseline that was established at the onset of the pandemic, averaging 10.3% of total retail sales since April 2020. This compares to a 6.1% share in 2019

In a study conducted by the International Post Corporation across 25 nations it showed those shopping online more than once a week increased by 22% in 2020 on average, up from 17% in 2019. It also found that Australia exceeded this global average with an increase of 27% for the same period.

This data suggests that the trends that emerged during 2020 have had a lasting impact on shopping behaviours and subsequently increased the pressure to make supply-chains more efficient.

Australian Online Share of Total Retail Online Share of Total Retail Turnover (%, Year to)



Source: Knight Frank Research, ABS (Original Estimate)

2

NEED FOR HIGHER SPECIFICATION AND GREATER AUTOMATION

The growth in e-commerce is intensifying the competition for market share, especially for grocery retailers, triggering an increased need for specialised automated solutions in order to maximise efficiency and profitability. Higher levels of automation can help optimise use of vertical space within a building which may not be achievable with the lower clearance heights seen in older stock. For example, Amazon's first Australian robotic fulfilment centre in western Sydney is being built with 26-metre-high bay clearance, compared to the more commonly seen 9-12 metre clearance in older style warehousing.

Adding automation solutions can also increase the power needs of the building, and access to adequate power capacity may require occupiers to consider alternative locations and/or new buildings. Customising automation to the specific needs of the occupier, the fulfilment model and location may impact the design and location choice further triggering that 'flight to quality'.

There have been significant upgrades to transport infrastructure in most cities and some local government areas have released and rezoned land to employment land use, creating new growth centres, which is encouraging demand for new industrial development as it becomes available.

Owners and operators are also adopting sustainability as a core element of their business model by incorporating sustainable design features into their buildings. Being closer to the customer can reduce transportation times, relevant to companies committed to reducing emissions.

3

DRIVING EFFICIENCIES AND FASTER DELIVERY TIMES

The technology in an MFC can help to pick and dispatch up to five times the volume of a traditional store. In some cases, delivery optimisation software can improve route planning to the customer, optimising the efficiency and enabling more delivery windows for customers.

The technology in MFC uses automation, robotics and vertical shelving to reduce floor space. This positions products closer to pickers rather than having staff walking up and down the aisles of supermarkets or dark stores to locate products.

While these compact centres can reduce delivery fees and operating costs when compared to a large-scale DC, they will typically only house around 80-90% of the most in-demand products. However, the attraction of fulfilling an order up to 10 times faster than traditional in-store method is seeing more retailers weigh up their fulfilment strategies.

4

REDUCING THE FOOTPRINT, TIME AND THE COST OF CONSTRUCTION

When an MFC is constructed using existing assets or supply chain, they can be built at a fraction of the cost and construction time it takes to build a fully automated centralised distribution centre, providing significant appeal to retailers wanting to make online fulfilment more efficient using a smaller footprint and smaller capital outlay.

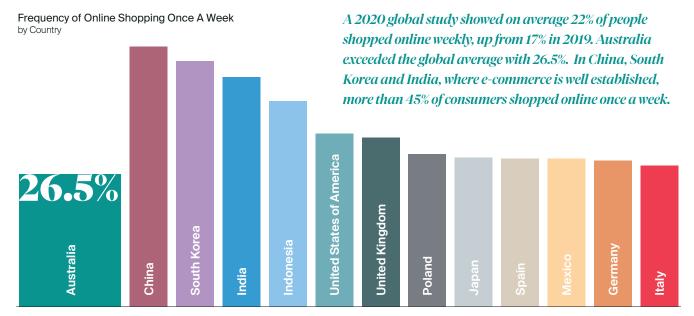
High rents, a lack of prime real estate options and rising inventory costs, in conjunction with consumer demand for same-day delivery are contributing to the need to downsize footprint and speed up of delivery logistics. An MFC will typically have a footprint of about 1,000 to 2,500sqm, and take three to six months to build. In contrast, Coles Online new fully automated fulfilment centre currently under construction at Horsley Park Estate in Sydney's west has a footprint of 30,000sqm and will likely take 18 months to two years to be completed.

5

SUPPLY-SIDE CHALLENGES

Across most markets, the volume of available industrial or logistics floor space in urban areas is much lower than what is found in the outskirts of those urban areas where there has been a greater tendency to de-urbanise industry uses. These supply-side challenges are pricing out some occupiers in urban areas and encouraging others to consider higher levels of automation within their facilities to help utilise vertical space on a smaller footprint in those locations. Indeed, this may also be providing some retailers with the impetus to look at alternative last-mile delivery options including self-service lockers or directto-boot enabled stores to maximise the capacity of the smaller footprint.

Logistics operators are exploring alternative transportation modes, such as e-cargo or bike logistics, which is also driving demand for new types of logistics properties in urban areas to allow providers to store their fleet or consolidate deliveries for urban dispatch.



Source: Australia Post Inside Australian Online Shopping eCommerce Industry Report 2021 referencing International Post Corporation Cross-Border E-commerce Shopper Survey

IMPLICATIONS AND OPPORTUNITIES

Are the sustained strong online retail growth rates a boon for industrial?

AUSTRALIA AT A RELATIVELY EARLY STAGE OF TRANSITION

Even before Covid, online retail spending was growing at a very fast pace, averaging 18% growth per year between 2015 and 2019, almost nine times the average annual growth rate of traditional bricks and mortar retail. In 2019, online retail accounted for about 6.2% of total retail sales and that share was double what it was five years earlier.

Today, online retail in Australia accounts for about 10%-16% of total sales based on ABS and Australia Post estimates, a penetration rate that many industry pundits suggest would have taken up to five years to reach without Covid. Despite this growth, Australia is still below the global online penetration rate of 25% and 40% in the Asia-Pacific region, according to data from NAB.

The lag in data, in conjunction with the sustained strong growth rates, suggests that there is much more growth in online retail spending to come, underlining the need for MFCs and other types of fulfilment initiatives in order to meet delivery, storage and reverse logistics capabilities as this demand surges. This presents a massive opportunity for the industrial and logistics sector.

The increase in e-commerce/online usage means companies will require more storage space and logistics delivery capabilities. And as the demand for faster fulfilment rises, so will the demand for decentralised or urban infill locations to allow for faster last-mile delivery. This demand is two-fold. With the number of end-users in the network getting larger, so too will the centralised distribution centres as they work overtime to meet the

demands of their logistics networks, be it MFCs, dark stores, customer fulfilment centres or in-store fulfilment and so on.

Indeed, the ramp up in activity to increase exposure to industrial by investors reflects the substantial shift in investor preferences and increasing confidence in the sector. The recent news that ESR and Singapore's sovereign wealth fund, GIC, have established a new partnership to acquire Australia's Milestone Logistics from Blackstone for A\$3.8bn underscores the growth in the industrial and logistics property sector, which has recently become one of the most sought-after asset classes with a huge amount of capital ready to be deployed in an increasingly tight market.



The increase in e-commerce/online usage means companies will require more storage space and logistics delivery capabilities.





Source: Knight Frank Research, ABS, NAB, UK ONS, Digital Commerce 360 analysis of U.S. Department of Commerce data, Oberlo



The surge in e-commerce/ retail, transport & logistics and manufacturing demand during the pandemic pushed new development completions to a historic 13-year high in 2020.



UNPRECEDENTED DEMAND FOR INDUSTRIAL AND LOGISTICS SPACE

More than 2.0 million sqm of new industrial development was completed in Australia's east coast markets last year, up from 1.4 million sqm in 2019.

Increased spending on consumer staples and a rise in the manufacturing and storage of pharma goods helped to drive tenant demand for new space. There was also strong demand from logistics occupiers trying to fulfil mandates for 3PL contract space. This helped to absorb some of the speculative space that was completed at the beginning of 2020.

Eastern Seaboard Industrial Supply 2009-2022(f) sqm

In sign of further confidence that e-commerce penetration rate will continue to rise and drive a structural increase in the demand for industrial and logistics space, developers have continued to move forward with new projects.

2021 is expected to reach a new tipping point with more than 2.2 million sqm of new industrial supply forecast to be completed. Indeed, the next three to five years will see elevated volumes of new development reach completion in Australia.

Almost half the new projects due to be completed this year are in Melbourne, led by retail and logistics operator precommitment demand in 2020. The growth in new facilities related to e-commerce/fulfilment demand is quite remarkable,

growing from around 80,000 sqm in 2019 to almost 300,000 sqm in 2021. Similarly, demand for logistics and distribution centre space will see the volume of new supply in Melbourne in that segment grow from below 50,000 sqm in 2019 to above 350,000 sqm in 2020 and c.240,000 sqm in 2021.

In Sydney, the pipeline of e-commerce/fulfilment space on average will account for 44% of the all new supply expected to be delivered in 2021 and 2022, accounting for around 270,000 sqm in 2021 and 275,000 sqm in 2022. This is well above the 19% share of total new industrial completions recorded in 2019 due to the rise in automation demand as retailers and distributors look to scale up their fulfilment capabilities in response to recent trends.



Source: Knight Frank Research



The flight to automation creates opportunity for older warehouses in mixed-use urban areas to be repurposed, with the potential for lighter industrial use, mini-store or last-mile.



NEED FOR SPEED DRIVING GREATER ADOPTION OF AUTOMATION

Although the push towards automation has been most evident with the grocery giants, other businesses are exploring ways to bypass traditional distribution models, and this is prompting a significant shift in the industrial warehousing market from a widening range of users.

Jaycar Electronics Group (Jaycar), which is relocating from their Rydalmere facility Sydney's inner north west to Eastern Creek, in Sydney's outer west into a 21,995 sqm purpose-built automated warehouse and distribution centre, said "the move positions the group to leverage growth in online retail by enabling the lowest possible cost to fulfil customer requests in an increasingly competitive space." In another example, AS Colour, a manufacturer of premium

apparel pre-committed to lease an 18,110 sqm purpose-built automated logistics facility in Truganina, Melbourne as it wanted to find a way to pick orders faster with minimal handling.

Online retailer Booktopia, which has grown from 4,000 sqm in 2010 to 14,000 sqm in 2020, has made a significant investment in automated packing systems and robotic 4 metre high shelving in its Lidcombe warehouse in Sydney. The new infrastructure is expected to double its distribution capacity and speed up last-mile delivery by reducing the handling time.

Other retailers such as Kogan.com and Temple and Webster, through eStore Logistics, are developing robotic powered fulfilment networks across a combination of warehouse sizes, including c.8,300 sqm centre in Melbourne's western suburbs and a 12,515 sqm warehouse in Marsden Park in Sydney. While retail giant Amazon is favouring much larger buildings, the latest

being its mammoth 191,000 sqm robotic warehouse in western Sydney - which is the size of 22 rugby fields - relative newcomers such as Marley Spoon, HelloFresh and mWave are starting out with single fulfilment locations or a portion of a larger facility.

Automation does require operators or developers to invest more in their facilities, but these costs will come down over time. Eventually there will be a greater widespread adoption of automation, even at low levels in the design of the building or fitout. In the short-term customised automation solutions tend to be more suited to larger end-users given the high cost of installation and longer leases required, while most 3PL contract logistics is on shorter three-year terms. This presents a potential stumbling block for wider adoption of these new technologies in the short-term. However, recent moves like Jaycar, do create opportunities for older style warehouses in mixed-use urban areas to be repurposed, with the potential for lighter industrial use, mini-store or last-mile.







Image Sources: Top Left - Courtesy of Jaycar Electronics Top Right - https://blog.aboutamazon.com.au/amazon-announces-its-first-robotics-fulfilment-centre-for-australia; Bottom - https://www.texco.net.au/project/dexus-as-colour/

OPTION TO CONVERT UNDERUTILISED ASSETS

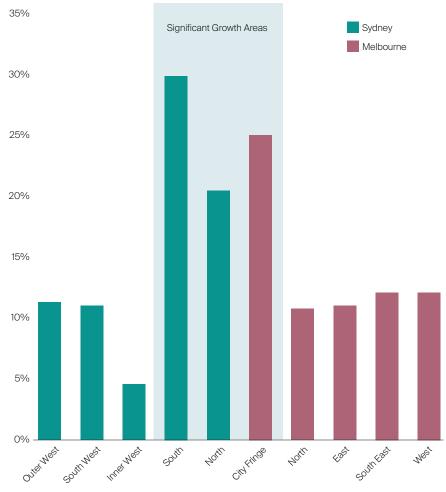
The re-use of existing supply chain or building infrastructure already in place in some urban areas may make them good candidates for certain industrial and logistics activities, increasing the scope for owners/developers looking to capitalise on the rise in demand.

Improvements to technology has enabled operators to make better use of space, in turn expanding the opportunities to occupy smaller footprints in urban areas where land is priced at a premium. This could present opportunity to other sectors where the space is underutilised, be it retail or secondary industrial, by converting or redeveloping the unit as an MFC or a standalone dispatch or click-and-collect

centre. For example, this type of facility could then be let to a 3PL to service the dispatch, delivery and returns of customer orders. A landlord could offer a lower or subsidised rent than its original retail use, helping to fill the vacant space and support occupancy rates.

Rental costs are traditionally much higher in urban areas making the efficiency and utilisation of the space available in those locations increasingly important. Opting for a pure 'dark store', which is used only for fulfilment could also create opportunity for existing underutilised or redundant assets in urban fringe locations. This type of shift could put some pressure on planners to allow conversion to industrial use in certain urban locations and potentially see industrial rents repriced in those urban fringe locations.

5 Year Average Prime Net Rental Growth Rates Sydney and Melbourne Precincts, Percentage (%)



Source: Knight Frank Research

DEVELOPERS ON THE FRONT FOOT TO QUICKLY SCALE AS DEMAND FOR LAST-MILE RISES

The tightly held nature of urban locations is fuelling the appetite to acquire existing infill sites that can be re-purposed for last-mile use. Although this trend appears to be localised to Sydney, retail, parking spaces and light industrial to logistics conversions have been taking place across Europe and the UK, foreshadowing similar opportunities for Australian markets. In one recent example, the City of London leased 39 car parking spaces to Amazon for a last-mile logistics hub that will use e-cargo bikes for delivery.

In Australia, the first signs of this trend were seen in 2019 when Dexus bought Homemaker Prospect, in Sydney's west, announcing plans to convert it into an industrial property within five years. Last year, two separate sites in South Sydney sold to Goodman Group and Charter Hall for their future infill redevelopment potential, 70-80 Euston Road (6,633 sqm) and 520-530 Gardeners Road (19,000 sqm). Charter Hall has already earmarked the Gardeners Road site for the development of a last-mile multi-storey warehouse facility.

More recently, Charter Hall, through its prime industrial fund, acquired Auburn Redyard Centre and neighbouring land in Sydney's inner west. Currently home to Reading Cinema, the infill site provides medium-term last-mile redevelopment potential to the group.

A SIGN OF THINGS TO COME

Apparel and footwear retailers have been rethinking their supply-chain strategies after fulfilling some of their online orders from closed storefronts during the pandemic, which could lead to further retooling of distribution networks in urban locations to increase delivery or click-and-collect options. This may see these retailers upgrade 'dead space' in their retail stores or secure underutilised store fronts in urban locations similar to Domino's Pizza, which is in talks to buy or take over the locations of bakeries and sushi bars that had closed down during the pandemic. On that note, expect to see increased demand in densely populated urban areas for dark kitchens or so called 'cloud kitchens' that operate delivery-only restaurants to service on-demand food apps.

Additionally, increased spending on consumer staples and a rise in the manufacturing and storage of pharma goods will also drive demand for sites in both outer and inner areas. While the need for large temperature controlled facilities will likely be fulfilled in the traditional outer areas, the increased need for speed to market will require pharma companies to consider local urbanised storage solutions to fulfill this demand, increasing the demand for MFCs in the fringes.

As end-users continue to increase their demand for goods, the expectation for retailers to provide same-day and next-day delivery services is also rising. This is intensifying the pressure on order fulfilment, as well as traditional outbound supply-chain facilities, and increasingly reverse logistics, which is said to require about 15-20% more floor space than a traditional outbound supply-chain facility due to the high volume of products being returned.

There is growing pressure for multi-level warehousing in the fringes, as well as near major airports and seaports. Although still in the early stages, expect more multi-level warehousing facilities to be developed over the medium term, particularly from developers that have been previously been active in this segment in other global markets.

The industrial market will see more businesses partnering up with tech providers to develop and implement some of these solutions, creating further opportunity as they relocate or expand existing warehousing facilities. Investment in automation solutions is also increasing the opportunity to repurpose or re-use underutilised space for lighter industrial use, mini-store or last-mile. Additionally, areas undergoing gentrification with land being rezoned from industrial to high density residential and mixed use will stimulate interest in redevelopment opportunities to develop last mile facilities under the current zonina.

The market has seen a rise in the development of large automated centralised distribution centres led by Woolworths, Coles and Amazon on the east coast. The substantial capital outlay required for a large- scale automation project is giving rise to longer-term leases, sale and leasebacks, and in some cases, fund-through development sales. This recent trend is expected to continue over the coming years and is likely to extend to other industries outside of grocery retailers and pure-play retailers such as Amazon and The Iconic. Logistics occupiers will be at the forefront of this demand, with DHL and Australia Post among those expanding their e-commerce capabilities recently.

THE PREDICTIONS:

- Rise in tech partnerships to implement automated solutions.
- Logistics, grocery and pure-play retailers to underpin demand for large automated DCs.
- Grocery retailers to drive MFCs development, with food, apparel and footwear retailers quick to follow.
- 4. Rise in the manufacturing and storage of pharma goods to increase demand for larger facilities in the outer areas, and MFC or multi-storey in the urban areas.
- Need for speed to market will increase demand for MFCs and multi-storey in urban fringes.
- 6. Increased demand for new types of logistics properties in urban areas for alternative lastmile delivery options, including e-cargo or bike logistics.
- Increased appetite from developers to acquire sites for last-mile development.
- Rising number of conversions of underutilised assets for lighter industrial use, mini-store or last-mile.
- Apparel, footwear, food retailers to upgrade 'dead space' and secure underutilised store fronts in urban locations.
- Increased demand in densely populated urban areas for dark kitchens that operate deliveryonly restaurants to service on-demand food apps.



WHERE WILL THE NEW ONES BE?

The best locations for last-mile logistics floor space are likely to be near the end customer, in popular inner urban locations or urban renewal corridors earmarked for future employment growth.

Location Factors at Play

RESIDENTIAL

DEVELOPMENT

POPULATION

PROXIMITY TO RETAIL CENTRES

RETAIL CENTRES

Historically, distribution and logistics facilities have been in outer areas near major transport networks and freight access points. While to some extent this has been driven by supply-side factors such as land values, availability, rental prices and access points, as technology and transport infrastructure have improved, location decisions have also changed.

Government investment in infrastructure is now at a record high, with \$110 billion in the pipeline over the next decade. It's worth noting that although the government sees the role of rail freight integral to distribution in Australia in helping to reduce the growth in truck movements, significant road network upgrades are still underway in most cities. From a freight perspective, the new Western Sydney airport will have a positive impact on demand, while in Melbourne, the new intermodal terminal will boost opportunities in the Port of Melbourne and Melbourne's west.

Demographics will continue to play a critical role in location decisions, as noted by Woolworths' recent announcement to build their first automated CFC in Auburn in Sydney's west. Woolworths said the Auburn catchment area covered 2 million shoppers who are already well served by physical stores but expected more customers to turn to the convenience of home delivery and to keep pace with demand they need to innovate with new technology to boost capacity.

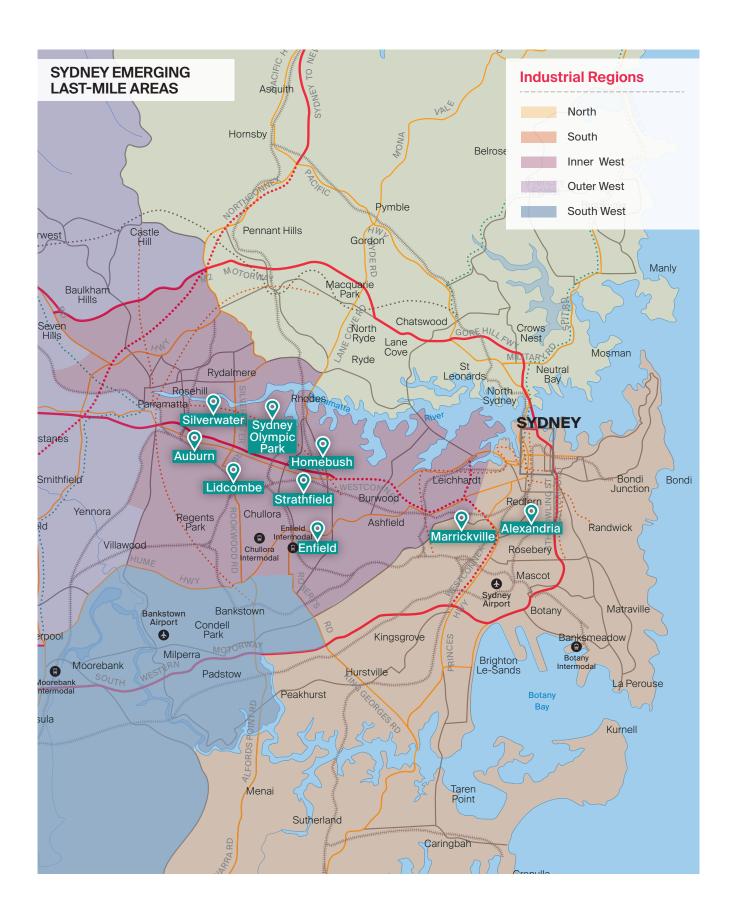
Areas undergoing gentrification with land being rezoned from industrial to high density residential and mixed use will stimulate interest in redevelopment opportunities to develop last mile facilities under the current zoning. Additionally, we could see such areas in Sydney include Alexandria/ Marrickville in the South and Auburn/ Lidcombe/ Homebush/ Silverwater in the Inner West.

Sydney could also see growth in the Strathfield area, which just borders on the Inner West, as it is home to Enfield Intermodal. In Melbourne, emerging areas include Tullamarine in the North and Oakleigh/ Moorabbin/ Burwood in the South East and the Port of Melbourne. In Brisbane, expect to see growth areas emerge North of the River in an arc covering areas like Pinkenba/ Eagle Farm/ Hendra/ Northgate. While in the South, Salisbury/ Rocklea/ Oxley could be targets. Inner city small hubs are also possible in semi industrial pockets around Bowen Hills/ Albion, West End/ Fairfield.

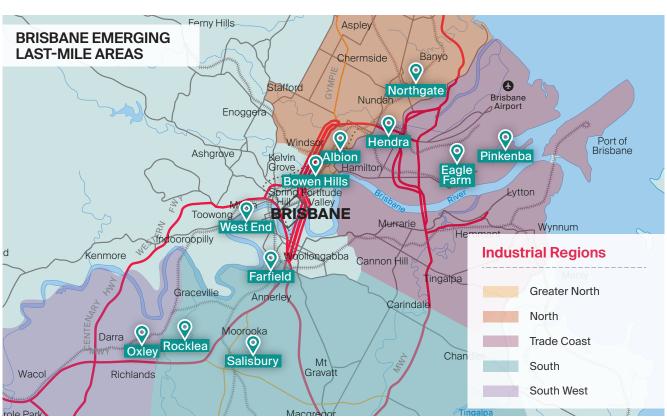
What makes a favourable location will always depend on the user/stakeholder. Transport will still play a major role for both the operator and the consumer, and while there will be increased emphasis on the last mile, there will still be a focus on large fulfilment centres in those outer areas where capacity for expansion exists.











CONCLUDING COMMENTS

It's not one model fits all.

The growth in online retail and e-commerce usage has become one of the hottest topics in recent times. While the pandemic has accelerated the shift to e-commerce by up to five years, expansion in the sector was already well underway. Advancements in technology and need for more sophisticated supply-chain networks, in conjunction with the change in the intensity of both customer and business demand, have driven changes to the industrial landscape globally.

In Australia, on the eastern seaboard, there has been a rise in demand for automation -both large and compact. And although, the market is starting to see industries such as manufacturing, health and pharmaceutical adopt some of these changes, it has been

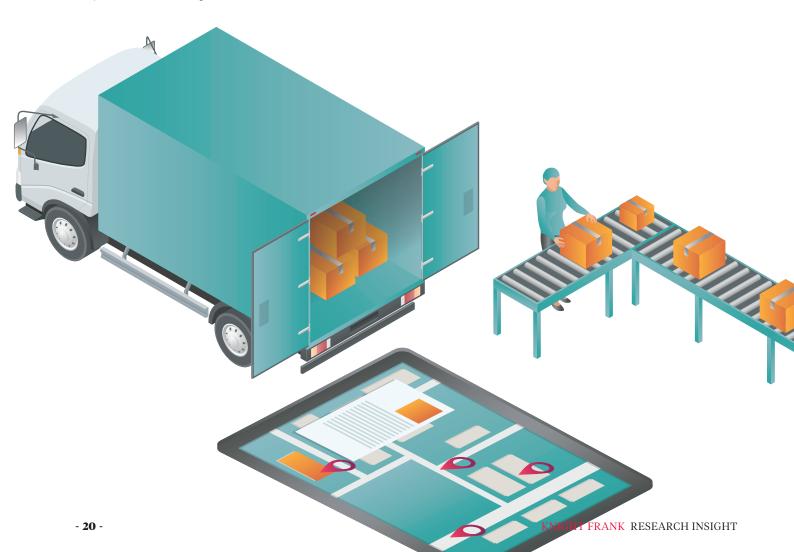
predominantly be driven by large grocery retailers such as Woolworths and Coles, pure-play retailers such as Amazon and The Iconic, and the logistics sector.

Decisions such as the physical location and type of facilities, whether to fulfil online/ e-commerce orders from a traditional warehousing model, in-store, or in a CFC or MFC, and how to manage reverse logistics are just some of the supply-chain challenges that operators face.

MFCs are becoming essential to the supply chain as they can help reduce costs and shorten the last mile. While a smaller footprint cannot provide the same economies of scale as the larger DC model,

the closer proximity to the end-user enables faster fulfilment, providing the retailer significant advantages in the last-mile race.

However, despite the phenomenal growth in online retail sales, online sales still only account for a small amount of overall sales in Australia. This suggests two things. Firstly, Australia is still in the early stages of this transition and two, that there is still a strong need for the centralised larger footprint and dark stores to help businesses scale. This already echoes the supply-chain strategies being seen by major retailers in Australia as they invest heavily into their logistics infrastructure to build micro-fulfilment as well as centralised, and more commonly seen, automated distribution centres.

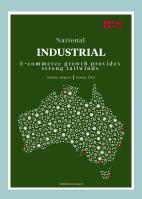


RECENT MARKET-LEADING RESEARCH PUBLICATIONS

Knight Frank Research provides strategic advice, consultancy services and forecasting to a wide range of clients worldwide including developers, investors, funding organisations, corporate institutions and the public sector. All our clients recognise the need for expert independent advice customised to their specific needs.



(Y)our Space May 2021



2021 Outlook Report March 2021



2021 Outlook Report 2021



Active Capital October 2020

Knight Frank Research Reports are available at KnightFrank.com.au/Research

Important Notice:

© Knight Frank Australia Pty Ltd 2021 – This report is published for general information only and not to be relied upon in any way. Although high standards have been used in the preparation of the information, analysis, views and projections presented in this report, no responsibility or liability whatsoever can be accepted by Knight Frank Australia Pty Ltd for any loss or damage resultant from any use of, reliance on or reference to the contents of this document. As a general report, this material does not necessarily represent the view of Knight Frank Australia Pty Ltd in relation to particular properties or projects. Reproduction of this report in whole or in part is not allowed without prior written approval of Knight Frank Australia Pty Ltd to the form and content within which it appears.



RESEARCH & CONSULTING



Ben Burston
Partner,
Chief Economist
+61 2 9036 6756
Ben.Burston@au.knightfrank.com

Publication Author:



Katy Dean
Associate Director,
Research and Consulting
+61 2 9036 6612
Katy.Dean@au.knightfrank.com

INDUSTRIAL LOGISTICS

Darren Benson

Partner,
National Head of Industrial Logistics
+61 403 722 104
Darren.Benson@au.knightfrank.com

Mark Clifford

Partner, Head of Industrial Logistics, QLD +61 408 451 848 Mark.Clifford@au.knightfrank.com

Mark Silva

Director, Head of Industrial Logistics, NSW +61 2 9036 6889 Mark.Silva@au.knightfrank.com

Angus Klem

Partner, Head of Industrial Investments, NSW +61 2 9028 1110 Angus.Klem@au.knightfrank.com

Daniel McGrath

Partner, Head of Agency, ACT +61 411 140 523 Daniel.McGrath@au.knightfrank.com

Joel Davy

Partner, Head of Industrial Logistics, VIC +61 3 9604 4674 Joel.Davy@au.knightfrank.com

Scott Braithwaite

Associate Director, Industrial Investments, VIC +61 3 9604 4689 Scott.Braithwaite@au.knightfrank.com

David Ludlow

Director, Head of Industrial Logistics, SA +61 8 8233 5273 David.Ludlow@au.knightfrank.com

Geoff Thomson

Director, Head of Industrial Logistics, WA +61 8 9225 2436 GeoffThomson@au.knightfrank.com

INTEGRATED CLIENT SOLUTIONS

Andrea Brown

Partner, Head of Project Management & Building Consultancy +61 2 9036 6853 Andrea.Brown@au.knightfrank.om

James O'Neill

Partner, Occupier Services NSW +61 2 9036 6766 James.ONeill@au.knightfrank.com

VALUATIONS AND ADVISORY

Alistair Carpenter

Partner, National Head of Valuations & Advisory +61 2 9036 6662 Alistair.Carpenter@au.knightfrank.com

ASSET MANAGEMENT SERVICES

Lisa Atkins

Partner, National Head of Asset Management Services +61 3 9604 4710 Lisa.Atkins@au.knightfrank.com