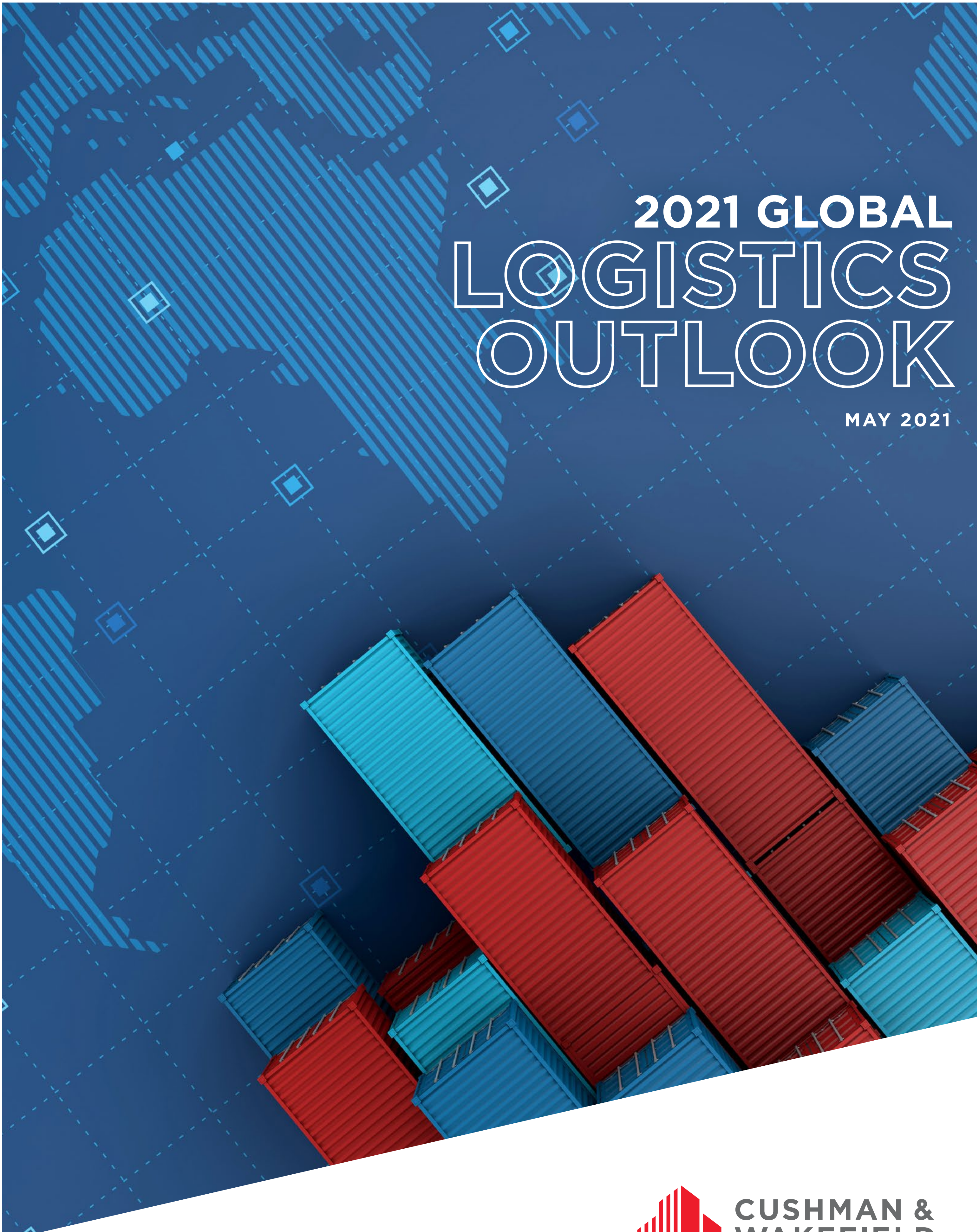
2021 GLOBAL LOGISTICS OUTLOOK

MAY 2021



CUSHMAN & WAKEFIELD

TABLE OF CONTENTS

Executive Summary

The COVID-19 pandemic brought the logistics sector abruptly into the global spotlight. With increased attention on the sector, both in 2020 and in the near-term, this report focuses on key drivers for the sector, recent market performance and an outlook for the industry.

GROWTH DRIVERS

At the ground level, ongoing population growth and economic expansion will drive the global middle class almost to double over the next decade. This increased level of consumption, together with the accelerated shift to e-commerce, will fundamentally drive the need for stronger, more resilient and more diverse supply chains. Ongoing development of transport infrastructure will be critical to ensure market connectivity.

A shortage of labor in some markets, especially across Europe, together with a sharper focus on Environmental, Social and Governance (ESG) priorities, will force accelerated adoption of technology to bring greater efficiencies and transparency. Similarly, the use of third-party logistics (3PL) operators will continue to grow as they provide corporations with opportunities for greater nimbleness and flexibility in meeting consumer demand.

Geo-politics will continue to shape the global trade environment. Many short-term interim solutions have been put in place to safeguard against recent trade flow disruptions, but complete roll out of new supply chain solutions will take years as corporates weigh opportunities for reshoring and demand/supply drivers.

LEASING MARKET

Industrial markets have proved resilient in 2020, and demand remained robust, despite economic growth figures being amongst the worst on record. Accordingly, industrial/logistics vacancy has remained tight across the world, although this has been due, in part, to limited development supply pipelines.

Notwithstanding, rental growth has remained comparatively elusive across the world with less than half of the markets tracked recording growth in 2020 but this varies in and within regions. While this may not be surprising in light of the pandemic, it also reflects the longer-term stagnation in rents, with less than half of the global markets having achieved more than 2.5% rental growth per annum since 2017. However, this is expected to change with increased cost pressures being exerted on landlords; not least of all being higher acquisition costs and increased land taxes and infrastructure charges.

OUTLOOK

Demand drivers highlight gaps in supply chains that can potentially be addressed by the expanded range of logistics asset types. To the extent supply chains connect production to consumption, these gaps can be in the same or across multiple regions.

Structural trends fueling demand over the long-term are also being accelerated by both business and consumer reactions to the pandemic. The investor outlook, therefore, is continued strong capital and income returns, with the latter likely to increase in contribution.

The combination of strong demand and supply chain reconfigurations to enhance efficiencies puts a sharper focus on land availability for new development. This will be a fundamental issue that needs to be addressed for real estate to meet the future needs of the sector.

INTRODUCTION

We witnessed a story of resilience in 2020 as COVID-19 held the world's economies hostage. Record-breaking declines in economic activity during Q1 and Q2 would normally not be conducive to healthy occupier demand or investor appetite, but this was not the case for the global logistics sector.

Just as longer-term global drivers of demand have shaped logistics real estate, COVID-19 will undoubtedly leave its mark on the sector. By exposing global supply chain vulnerabilities and accelerating long-term trends in consumer behavior, COVID-19 will be etched in history as a turning point.

In this report, we consider some of the key drivers affecting the global logistics market, examine recent market performance, and provide an outlook for the sector in the years to come.

DRIVERS

While structural and cyclical trends are responsible for shaping the logistics landscape, their exact nature is far from uniform, reflective of different levels of economic maturity and diversity across the world. Despite this, there is still an element of synchronicity propelling the sector forward.

Demographics and urbanization

The world's population is becoming increasingly more urban with over half of the population, some 4.1 billion people, living in towns and cities. At the same time, the world's population continues to grow—more so in emerging countries than in advanced economies. Asia Pacific is well positioned to capitalize on these trends to flourish both demographically and economically. As a geographically large and economically diverse region, Asia Pacific incorporates both emerging markets and advanced economies. The region currently accounts for 36%[1] of the global economy and 55% of the world's population[2]. By 2030, Asia Pacific is forecast to account for 40% of global GDP, underpinned by strong growth in the region's cities, bringing with it a new wave of entrants to the middle class. Expect demand for goods and services to skyrocket and supply chains that will need to keep up with demand.

In other regions, such as Europe, demographic trends are more challenging with lower fertility rates and aging populations eventually resulting in shrinking working-age populations. While the situation is not as severe in North America, there is also little expansionary growth. The labor effects are heightened further by the ongoing tightening of immigration policies and, more recently, by the restriction of international travel due to COVID-19. However, it is important to note that while these trends are evident at the regional and national levels, individual cities can and do benefit from positive local drivers such as internal migration flows.

The upshot is that no matter which region is examined, cities will continue to play an essential role in the economic fabric, which in turn means that the final links of supply chains often will end in cities. Logistics solutions, therefore, will continue to be directed to finding more efficient ways to serve large population areas and asset longevity will increasingly be based on an urban-bound distribution channel's cost/time efficiency, and its carbon footprint.

Addressing labor issues and ESG through technology

Although technology developments have long been a part of increased efficiency in the industrial sector, COVID-19-related restrictions on the movement of people shined a spotlight on the benefits of automation to help manufacturers maintain productivity. In Europe and the UK, where ESG[3] issues are at the forefront of conversations for occupiers and investors alike, technology is increasingly being integrated into warehouses to create "smart" buildings. Not only has this been driven by the search for greater efficiency, but also as a direct result of current and forecast labor shortages. Even in Eastern Europe, the continent's manufacturing epicenter, there is increasing evidence of companies adopting new technological solutions as a direct result of severe labor constraints, rising wages and ESG priorities.

1 Moody's Real GDP Market Exchange Rate (2012USD, SAAR)
2 United Nations
3 Environmental, Social, and Governance. "Environmental" refers to sustainable additions or changes to the building "Social" refers to building features directed to improve employee wellness, comfort, and safety. "Governance" refers to corporate responsibility relative to all levels of business including transport

More notably, potentially as much as 30%[4] of the workforce can be replaced by technology. Wage costs will therefore be compared more stringently to the cost of the technology able to replace workers in higher labor cost locations. Notwithstanding, emerging economies with a higher reliance on manufacturing also will be under increasing pressure to demonstrate cost advantages.

Recognizing that labor costs can be both cyclical and structural in nature and that it may take years to implement a new, long-term course for the business, companies can begin by finding ways to diversify their exposure over the short- to medium-term. Either geographic or operational diversification can successfully achieve labor cost reduction allowing for a “wait and see” approach ahead of any commitment to a complete and costly overhaul of production and supply chains. For example, rising production costs in China are prompting some manufacturers to shift part of their operations offshore with Southeast Asia countries being the most favored destinations, especially Vietnam and the Philippines.

A number of longer-term solutions are already in play in both production and distribution. The Thomas Industrial Survey, conducted in Q2 2020, revealed that 69% of the 746 manufacturers surveyed are looking to bring production back to North America and 55% will likely invest in automation to improve production performance, product testing, quality and process control. Such transformations and relocations are likely to gather momentum with an increasing number of companies, especially those based in the U.S. and Europe, believing their revised labor requirements can more easily be met near or in their own countries.

E-commerce expansion and growth

The growth of e-commerce has long been under scrutiny across the world; not only for its more negative impacts on traditional “bricks-and-mortar” retail, but also for its exponential growth drivers in the transport, logistics and warehousing sectors.

The pace of digital penetration in recent years, especially as increasing numbers of people have access to smart phones, has resulted in prolific growth in e-commerce. New market entrant retailers are often forgoing building a traditional retail platform and instead choosing to focus on establishing their distribution networks. This has been especially prevalent in Asia Pacific, which accounts for 75% of the world’s retail sales growth and where online sales growth was double the global average, despite starting off at a higher rate—increasing from 9% to 19% in Asia Pacific compared to 6% to 11% for the rest of the world in 2014-19. In response, retailers across markets such as the U.S., Europe, Australia and Japan have followed a more traditional model and are now having to simultaneously reassess store networks and grow their logistics capabilities.

Initial e-commerce requirements in the U.S., in the early 2000s, emphasized centralized locations, which pooled inventories and balanced delivery times across a broad geography (but deliveries were slow and expensive). More recently across all regions, e-commerce-related real estate leasing activity has been concentrated at the consumption-end of the supply chain.

Going forward, e-commerce companies will need to overcome two key challenges: (i) fast and efficient last mile delivery; and (ii) managing the increasing amounts of product returns. Although not mutually exclusive, these challenges have different real estate needs with regards to location, accessibility, size and quality of building. Companies that can identify their needs earliest and secure appropriate building space can expect to benefit from first-mover advantage.

4 Deloitte

Trade policy

The free flow of goods relies on the stability of global and regional trade agreements; many of which have been subject to renegotiation or complete abandonment in recent years. As such, trade policy is always in a state of flux. Newly negotiated treaties, like the United States-Mexico-Canada Agreement (USMCA) which took effect in 2020, could create new market opportunities for companies operating global supply chains in North America. Other agreements, such as the 1995 Schengen agreement that advanced the creation of the EU by eliminating borders between EU member states, are under threat as evidenced by the UK's exit last year. Alternatively, the 2018 escalation of the U.S.-China trade frictions have had repercussions for other trade agreements that put global and regional supply chains and production lines at risk.

With the new Biden administration, there is renewed optimism that trade disputes that flared in recent years will begin to calm. However, this has not stopped the logistics industry from closely examining the disruptions already encountered. While some companies have been relatively quick to reroute supply chains through more neutral locations, these have mainly been enacted as short-term safeguards. A complete supply chain overhaul will only occur over the longer term when companies may eventually decide to increase or shift production closer to consumers. Of course, with new trade agreements regularly being placed on the diplomatic table, corporates will need to remain nimble when it comes to their longer-term planning.

Connectivity through infrastructure

Trade agreements serve as the backdrop for global and regional distribution. Quality infrastructure networks are essential to physically connect markets and are the backbone of expansion in the logistics sector. As population centers continue to grow, there remains a voracious appetite for new or upgraded infrastructure—indeed the Asia Development Bank has identified a requirement for annual expenditure of USD 1.7 trillion on infrastructure in Asia Pacific alone to meet the needs of the growing population.

At the trans-regional level, the ongoing advancement of China's Belt and Road Initiative (BRI) continues to focus on strengthening both rail and maritime freight routes to Africa and Europe. Within Europe, the TEN-T regional infrastructure initiative has a specific aim to reduce transportation-related carbon emissions. While TEN-T projects include both passenger and freight networks, an emphasis on trans-modal transportation addresses severe road congestion along the continent's traditional distribution motorway corridors that has increased costs for the logistics industry.

At the national level, projects are more numerous, though smaller in nature. In the U.S., President Biden's American Jobs Plan includes proposals for $617 billion to be invested in traditional

Quality infrastructure networks are essential to physically connect markets and are the backbone of expansion in the logistics sector.

infrastructure (such as roads, bridges and ports) in addition to $683 billion for modernizing, upgrading and/or expanding broadband, the electric grid, water infrastructure, affordable housing and education facilities. The plan contains another $1.295 trillion in investment in R&D, manufacturing, workforce development and the caretaking economy. In addition, governments have sought to fast-track new infrastructure projects to spur economic growth in response to the COVID-19-induced recession. This has been especially prevalent in Asia Pacific where Australia is looking to bring forward approximately AUD72 billion in projects, the Singaporean government has recommitted to the Tuas Mega Port and China has recently announced new infrastructure initiatives, including enhanced ultra-high voltage capacity and an expanded industrial internet network. No matter where it is occurring, connectivity through infrastructure investment is essential to the logistics sector and is the foundation for creating new markets and strengthening the flow of goods to existing ones.

Supply chain resiliency

Heightened geopolitical risks, increasing wages, evolving trade agreements and now COVID-19 are forcing companies to rethink supply chains. Many are moving towards a gradual increase in sourcing products and raw materials closer to consumers, a growing reliance on regional manufacturing and moving forward with longer-term plans for reshoring. Improving supply chain transparency through blockchain technology, RFID (Radio-Frequency IDentification) and other big data solutions make it possible to monitor the movement of goods and therefore, rectify any problems that arise.

Many occupiers are likely to build higher inventory levels to safeguard supply chains against near-term disruptions, including those associated with the current pandemic. Looking ahead, we expect elevated leasing demand in the next two to three years as companies adjust to higher e-commerce volumes and higher inventory levels. Such demand growth is highlighted in the U.S. where it is estimated that every 100 basis points (bps) of growth in inventories requires an additional 57 million square feet (msf) of warehouse space.[5]

Elsewhere, such as emerging markets in Asia Pacific, the trend is very much expansionary as the sector remains somewhat nascent across much of the region. Recent experiences have revealed the benefits of having a diversified manufacturing base across the region. This is expected to accelerate the transition of lower-order manufacturing out of China and into emerging markets. In turn, expect Chinese manufacturers to move up the value chain and focus on the production of higher order goods. This will likely require the development of new, high quality premises and accelerate the trend of decentralization already underway in many of China's Tier 1 cities as older industrial parks become consumed by higher and better uses.

On a global level, achieving greater supply chain resiliency will undoubtedly mean reorganizing both logistics and production platforms. As part of this, expect continued growth in 3PLs as ongoing outsourcing to these operators affords enormous efficiencies and greater flexibility—and in an increasingly unpredictable world, flexibility is rapidly moving up the priority list.

Such flexibility offered by 3PLs is founded upon scale, both in regard to geographical coverage and volume of goods movement. Not surprisingly, there has been considerable merger and acquisition (M&A) activity in the sector to build that scale such that today, many 3PL platforms have large enough geographic footprints to be able to offer the nimbleness and flexibility required to maneuver supply chains in a fast-moving global landscape.

5 Prologis

Figure 1: Number of 3PL acquisitions over $100 Million per annum (1999-2019)

Source: Armstrong & Associates

GLOBAL LEASING MARKET DYNAMICS

Notwithstanding the challenges wrought by the current pandemic, global demand for warehouse space is extremely strong, fueled by the gamut of structural drivers presented above. In this context, it is supply conditions that are differentiating landlord- from tenant-favorable markets.

Table 1: Global warehouse rental ranking Q4 2020

	MOST EXPENSIVE			LEAST EXPENSIVE		
RANK	COUNTRY	MARKET	USD SQFT/ YEAR	COUNTRY	MARKET	USD SQFT/ YEAR
1	United Kingdom	London	$24.90	India	Hyderabad	$2.45
2	China	Hong Kong	$19.93	India	Ahmedabad	$2.61
3	U.S.	San Francisco Peninsula, CA	$18.25	Turkey	Izmir	$2.79
4	Switzerland	Geneva	$17.97	Turkey	Ankara	$3.07
5	Singapore	Singapore	$16.68	India	NCR	$3.27
6	Japan	Tokyo	$14.71	India	Chennai	$3.41
7	Norway	Oslo	$14.68	U.S.	Memphis, TN	$3.61
8	U.S.	San Francisco North Bay, CA	$14.62	India	Kolkata	$3.70
9	U.S.	Puget Sound - Eastside	$14.31	Greece	Thessaloniki	$3.72
10	Switzerland	Zurich	$13.97	U.S.	Columbus, OH	$3.95
11	U.S.	Santa Clara County (San Jose), CA	$13.93	U.S.	Greenville, SC	$4.06
12	Sweden	Stockholm	$13.62	India	Pune	$4.08
13	U.S.	San Diego, CA	$13.44	India	Mumbai	$4.15
14	U.S.	Orange County, CA	$12.73	U.S.	Cleveland, OH	$4.15
15	Ireland	Dublin	$12.41	U.S.	Louisville, KY	$4.20
16	Finland	Helsinki	$12.30	China	Dalian	$4.23
17	U.S.	Long Island, NY	$11.87	India	Bengaluru	$4.24
18	U.S.	Los Angeles, CA	$11.64	U.S.	Roanoke, VA	$4.27
19	U.S.	Northern VA	$11.42	U.S.	Kansas City, MO	$4.31
20	U.S.	Oakland/East Bay, CA	$11.37	China	Chongqing	$4.42

Source: Cushman & Wakefield (Converted with the Q4 2020 FX rate)

EMEA

Europe's logistics sector is grappling with supply constraints, stemming from a combination of a lack of developable land and strict planning regimes. In contrast to pre-GFC when speculative development represented roughly 80% of new construction, post-GFC has been characterized by predominantly built-to-suit development that led to severe supply shortages in most of Europe's core logistics markets.

Compounding the supply dilemma further, low vacancy levels and a pause in speculative development during the first half of the year (H1) contributed to a growing supply-demand gap. In many markets, the consequence of supply constraints has been reflected in restrained gross leasing activity. As speculative construction resumed post-lockdowns during the second half of the year (H2), bringing more product to market, pent-up demand was released and leasing activity accelerated.

While many markets experienced a lull in activity during the first half of 2020 due to strict lockdowns, a resurgence in activity during Q3 and/or Q4 resulted in record European-wide total/gross leasing of 345 msf during 2020.

Based on year-end 2020 data, vacancy continues to trend downward in most of Europe's key logistics hubs. Vacancy of approximately 4% in Dutch and UK markets and vacancy hovering around 2% in Rotterdam, Lyon, Prague and Budapest points to a severe lack of stock that, so far, a rise in speculative construction has been unable to alleviate. Furthermore, increased demand from e-retailers and 3PLs, as they expand their logistics footprint, has offset any vacancies created through tenant bankruptcies during 2020.

While many markets experienced a lull in activity during the first half of 2020 due to strict lockdowns, a resurgence in activity during Q3 and/or Q4 resulted in record European-wide total/gross leasing of 345 msf during 2020, 14% above the 2019 level of 301 msf. The regional result was underpinned by strong performances in the UK (+44% YOY) and CEE countries (+19% YOY), though was partially offset by markets such as France where leasing was 7% below the 2019 level.

Accordingly, annual rental growth was the strongest in UK markets, growing on average by 4.3%. London, the most mature e-commerce market in Europe, posted 12.5% annual growth in rents in western submarkets where urban logistics solutions are becoming more prevalent. The same market dynamics fueled a 5.6% average annual rental growth in Germany as well as steady growth ranging between 1-2.5% in Europe's key logistics market.

APAC

In broad terms, the regional industrial market remains resilient. Out of the 34 key markets covered within Asia Pacific, 15 are considered landlord-favorable with six being tenant favorable and the remaining 13 in neutral territory. The status quo has largely been maintained year-to-date, with only Singapore showing any significant change to becoming more tenant friendly, though this is restricted to certain parts of the industrial market.

In local currency terms, industrial rents grew steadily in 2020 and into 2021 in key Indian and South East Asian markets where rents in Delhi, Ho Chi Minh City, Kolkata, Jakarta and Hanoi have all increased by over 2.5%. Rents have held broadly flat in Australia while they have seen a slight uptick of 2% in the Chinese logistics market, due to boosted demand from online shopping soaking up some of the vacancy.

In contrast, Singapore and Hong Kong have been under the greatest downward pressure, with both suffering from weaker re-export demand. In addition, Hong Kong is currently managing several challenges and in line with this rents have eased 10% over the year.

In Singapore, the industrial market is more nuanced with different trends evident across different industrial sub-sectors. Stockpiling of essential supplies and foodstuffs to maintain supply chains has seen warehousing remain in strong demand, which has also created upward pressure on prime logistics facility rents. Factory rents, though, have moderated due to weaker global demand for products at the height of the pandemic, which concurrently led to weaker tenant demand. Indeed, some companies are seeking to reduce their real estate footprint and have offered space for sublease.

Outside of these market-specific trends, the growth of logistics facilities is likely to endure, with growth in niche sectors such as cold chain logistics to accommodate increased demand for online grocery shopping. The bio-medical and pharmaceutical sectors have both immediate-term and longer-term drivers in the form of vaccine development and general medical demands from aging populations. The demand for specialist facilities to meet these needs is likely to increase over the near-to-medium term. Similarly, the pandemic shined a spotlight on supply chains for essential products, which will lead to reshoring of these in many major markets. In all, this bodes well for the sector with diverse demand coming from a range of industrial-related sectors, each focusing on specific markets across the region.

North America

The North American industrial market experienced growth despite the COVID-19 pandemic wreaking havoc across the globe, as well as more local disruptions including hurricanes and wildfires. It has proven once again to be one of the most resilient asset types. Although North American new supply outpaced demand for the second year in a row, with 378 msf of completions, demand came in at 287 msf, surpassing 200 msf for the seventh consecutive year.

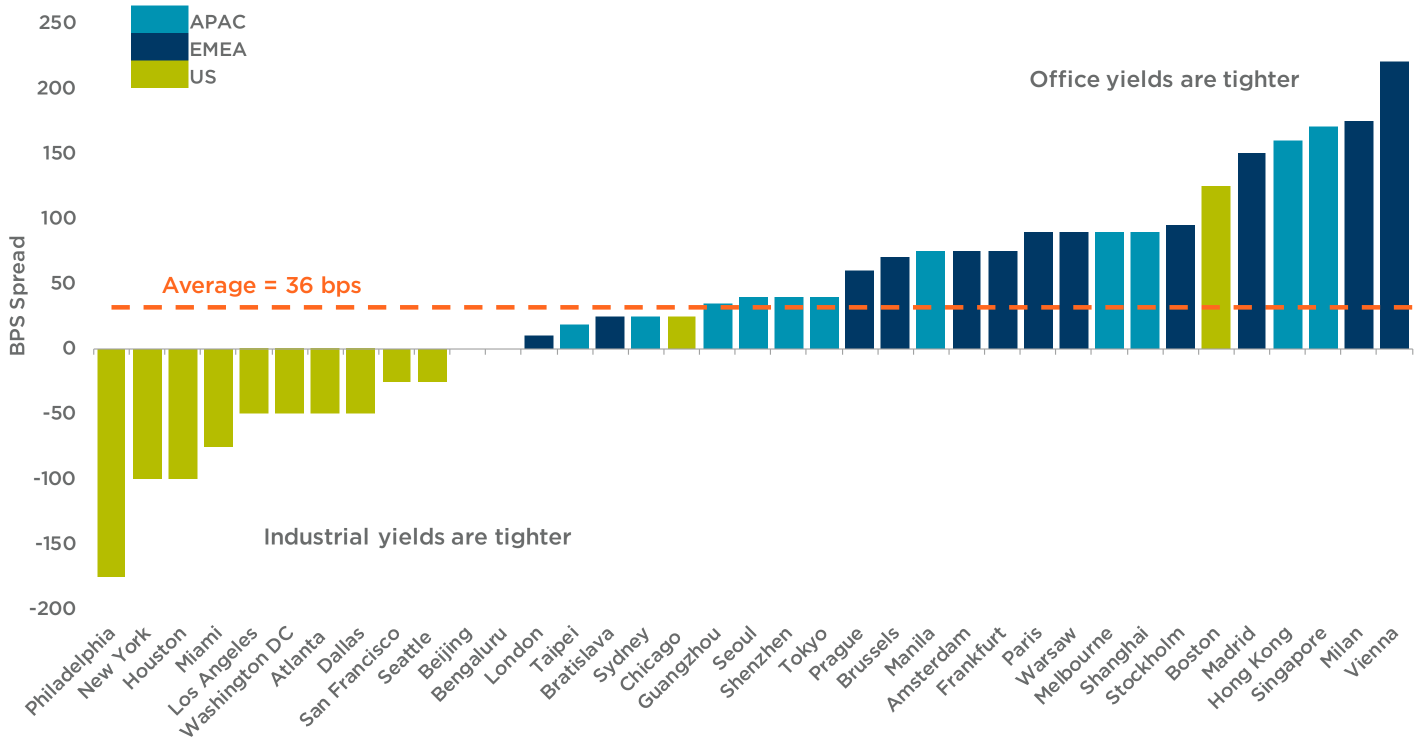
The forecast for North American industrial absorption from 2021 to 2022 is a healthy 539.9 msf.

After the first quarter of 2020, some owner-occupiers were concerned about labor, finances and production once countries began COVID-19-induced lockdowns. Those concerns were not unfounded as many businesses were forced to temporarily close and, in turn, lay off millions of workers throughout the year. This did cause a slight slowdown in demand in the first half of the year compared to prior years. However, even this combined with the large volume of supply has still not been enough to fully satiate tenant demand and to allow vacancy rates to begin to rise significantly. At the end of 2020, North American industrial vacancy stood at 4.9%—just a 30 bps-increase over 2019. Canadian markets registered the lowest vacancy rates (2.5%), with Mexico City following (3.0%).

Other market fundamentals—such as construction deliveries and rents—reflect maintained growth. Overall net rents continued to climb in 2020, albeit at a slower pace than in recent years, and finished the year at $6.90 per square foot (psf), 4.4% above 2019 levels and another record high rental rate for industrial space. Again, the Canadian markets led with the highest rents at $9.78 psf, followed by the United States and Mexico.

The forecast for North American industrial absorption from 2021 to 2022 is a healthy 539.9 msf. New supply—which has surpassed demand two years in a row—will maintain this trend over the next two years. New deliveries are projected to reach 757.3 msf of product from 2021 to 2022. Nonetheless, North American vacancy is forecast to remain low, ending 2022 at approximately 5.8%—an increase of only 83 bps over year-end 2020. Despite the forecast uptick, North American vacancy will remain nearly on par with its 10-year average (2012-2021) of 6.0%. Overall average net asking rents for all classes of industrial product is therefore forecast to rise to a new nominal high of $7.80 psf by the end of 2022.

Figure 2: Office-Industrial yield spreads for select markets, Q4 2020



Source: RCA; PWC, Cushman & Wakefield

Outlook for rental growth

Despite the prevailing tight market conditions and robust space demand across the globe, industrial rents have typically been slow to rise. In 2020, less than 50% of the 250 markets that Cushman & Wakefield tracks globally recorded positive rental growth (in local currency). Of course, in light of the pandemic and prevailing economic conditions, many landlords have chosen to hold off on rental increases. Even if a longer period is examined, there still has been comparatively little rental movement. Over 2017 to 2020, a quarter of markets showed zero or negative rental growth with a further 25% experiencing less than 2.5% increase per annum-i.e. less than half the global rate of inflation.

However, recent trends are suggesting that such conditions could be changing, at least in key markets where scarcity of land and supply is a constant challenge. Growing investor interest in industrial assets has compressed average yields in recent years, while office yields have held comparatively steady. The upshot of this is that for many markets in the U.S., prime industrial yields are now tighter than for equivalent office towers. This issue is most acute in Philadelphia and New York where spreads are -175 bps and -100 bps respectively. In APAC and EMEA the situation is not as severe with spreads averaging 66 bps and 100 bps respectively, though both have seen the gap between office and industrial assets narrow.

The narrowing spread between industrial and office assets confirms what landlords are experiencing in many key markets across the globe – increasing costs across many metrics associated with higher land prices. Scarcity of land is so severe in some markets that pent-up demand has been cited as a consequence. Higher land values become even more pressing when additional factors such as land tax, water rates and other infrastructure charges are also increasing. Therefore, in these markets, where higher land values and associated costs have reached a "breaking point", there is greater likelihood that these increases will be passed on to tenants in the form of increasing rents.

Drivers	Supply chain real estate gaps to fill
DEMOGRAPHICS & URBANIZATION	• Production to follow labor supply, cost and skills • Distribution near labor pools • Last link real estate to manage deliveries
TECHNOLOGY, LABOR & ESG	• Proximity to higher skilled labor to manage technology • Warehouses and transport in compliance with ESG goals
E-COMMERCE GROWTH	• Positioning fulfillment and last link real estate for efficiency • Reverse logistics real estate to manage returns
TRADE POLICY	• Real estate to help circumvent trade policies and country borders
CONNECTIVITY THROUGH INFRASTRUCTURE	• Real estate to optimize infrastructure connectivity through location and transport mode
SUPPLY CHAIN RESILIENCY	• Real estate near import/export entry points (i.e. ports & airports) • Real estate flexibility to manage just-in-time/inventory increases balance • Real estate to respond to reshoring production and parts sourcing
OUTSOURCING LOGISTICS	• Increased need for real estate to manage B2C supply chains • Ongoing global and regional supply chain reconfigurations • Changing client base requires real estate asset and location adjustments

OUTLOOK

The global logistics sector not only showed resilience during the strict lockdowns in the first half of 2020, but went on to benefit from consumer and business reactions to the pandemic during 2020 H2. Broadening e-commerce, both geographically and by product range, will be a key driver of new space demand over the next decade. In a post-COVID-19 world, there will be greater focus on using real estate to leverage cost across the whole supply chain, better positioning businesses as they navigate a B2C business model, reshoring, inventory management, labor issues, transportation and ESG. Together, these factors will govern location strategy.

Whether supply chains are principally production or retail, demand drivers highlight global and regional gaps that can be filled either through asset location or type. On the table to the left, we connect the drivers presented above with strategic real estate requirements that are most likely to capture the type of space demand created.

The role of global supply chains is to connect production to consumption. At a regional level, the top end of global supply chains focuses on production while the bottom end focuses on consumption. Where there is greater balance between the strength of a consumption-based market and occupancy costs, the more likely the cost/return trade-off is attractive to occupiers. Similarly, occupiers of space serving the top end of supply chains will look for lower labor costs and lower rent.

The strength of structural drivers promises to fuel demand for space in every market for the foreseeable future. It is apparent across regions that the sector presents no absence of opportunity given the range of asset types and geographies. Measuring how well real estate can be used to fill in gaps in global and regional supply chains will depend entirely on supply and the ability to create more. Therefore, it is no surprise that investor pricing which has narrowed the spread between industrial and office yields, points to a consequential rise in logistics land values, therein implying faster growing rents. It remains to be seen how the industry will react and where these higher rents will and won’t be sustained.

APPENDIX

Table A1: Global warehouse rental ranking, Q4 2020

Source: Cushman & Wakefield (Converted with the Q4 2020 FX rate)

RANK	COUNTRY	MARKET	USD SQFT/YEAR	2019-2020
1	United Kingdom	London	$24.90	13%
2	China	Hong Kong	$19.93	-10%
3	U.S.	San Francisco Peninsula, CA	$18.25	0%
4	Switzerland	Geneva	$17.97	0%
5	Singapore	Singapore	$16.68	1%
6	Japan	Tokyo	$14.71	0%
7	Norway	Oslo	$14.68	8%
8	U.S.	San Francisco North Bay, CA	$14.62	8%
9	U.S.	Puget Sound - Eastside	$14.31	20%
10	Switzerland	Zurich	$13.97	0%
11	U.S.	Santa Clara County (San Jose), CA	$13.93	0%
12	Sweden	Stockholm	$13.62	0%
13	U.S.	San Diego, CA	$13.44	-5%
14	U.S.	Orange County, CA	$12.73	10%
15	Ireland	Dublin	$12.41	4%
16	Finland	Helsinki	$12.30	0%
17	U.S.	Long Island, NY	$11.87	23%
18	U.S.	Los Angeles, CA	$11.64	5%
19	U.S.	Northern VA	$11.42	-8%
20	U.S.	Oakland/East Bay, CA	$11.37	1%
21	U.S.	Austin, TX	$11.03	8%
22	Switzerland	Bern	$10.98	0%
23	Switzerland	Basle	$10.98	0%
24	Finland	Turku	$10.97	0%
25	Finland	Tampere	$10.97	0%
26	Canada	Vancouver	$10.92	8%
27	U.S.	Suburban MD	$10.87	-6%
28	Luxembourg	Luxembourg City	$10.64	0%
29	Australia	Sydney	$10.57	0%
30	U.S.	Palm Beach County, FL	$10.51	4%
31	United Kingdom	Bristol	$10.37	3%
32	United Kingdom	Northampton	$10.37	7%
33	U.S.	New Jersey - Northern	$10.25	5%
34	Ireland	Cork	$10.25	3%
35	Germany	Munich	$10.24	7%
36	Netherlands	Amsterdam	$10.19	5%
37	U.S.	Colorado Springs, CO	$10.03	12%
38	United Kingdom	Manchester	$10.03	4%
39	Canada	Ottawa	$10.02	3%
40	U.S.	Fort Myers/Naples FL	$9.90	14%

RANK	COUNTRY	MARKET	USD SQFT/YEAR	2019-2020
41	U.S.	Inland Empire CA	$9.83	12%
42	Sweden	Gothenburg	$9.80	0%
43	United Kingdom	Birmingham	$9.68	0%
44	U.S.	Ft. Lauderdale, FL	$9.68	5%
45	Finland	Oulu	$9.64	0%
46	Spain	Barcelona	$9.64	0%
47	China	Beijing	$9.59	-1%
48	U.S.	Boston, MA	$9.48	4%
49	Ireland	Galway	$9.42	0%
50	U.S.	New Jersey - Central	$9.39	4%
51	Denmark	Copenhagen	$9.30	0%
52	U.S.	Portland, OR	$9.24	8%
53	U.S.	Denver, CO	$9.24	6%
54	China	Shenzhen	$9.18	7%
55	U.S.	Las Vegas, NV	$9.07	2%
56	U.S.	Seattle, WA	$9.00	6%
57	United Kingdom	Leeds	$8.99	0%
58	United Kingdom	Cardiff	$8.99	0%
59	United Kingdom	Central Scotland	$8.99	8%
60	U.S.	Miami, FL	$8.86	7%
61	Sweden	Malmo	$8.72	0%
62	United Kingdom	Sheffield	$8.65	0%
63	Germany	Frankfurt	$8.64	3%
64	Germany	Stuttgart	$8.64	0%
65	Germany	Hamburg	$8.38	2%
66	Canada	Edmonton	$8.34	n.a.
67	Canada	Toronto	$8.31	12%
68	Netherlands	Rotterdam	$8.31	7%
69	Netherlands	Utrecht	$8.31	10%
70	United Kingdom	Newcastle	$8.30	9%
71	United Kingdom	Nottingham	$8.30	0%
72	China	Shanghai	$8.13	-2%
73	Australia	Brisbane	$8.12	0%
74	U.S.	Raleigh/Durham, NC	$8.00	-9%
75	Canada	Calgary	$7.98	10%
76	Philippines	Manila	$7.93	2%
77	Ireland	Limerick	$7.76	0%
78	Italy	Florence	$7.76	0%
79	U.S.	Phoenix, AZ	$7.71	10%
80	U.S.	Southern New Hampshire	$7.70	40%
81	United Kingdom	Belfast	$7.61	0%
82	China	Guangzhou	$7.49	17%

RANK	COUNTRY	MARKET	USD SQFT/YEAR	2019-2020
83	Germany	Berlin	$7.45	12%
84	Germany	Dusseldorf	$7.45	0%
85	Denmark	Aarhus	$7.44	0%
86	U.S.	Nashville, TN	$7.42	23%
87	Austria	Vienna	$7.31	0%
88	Slovenia	Ljubljana	$7.31	0%
89	U.S.	St. Petersburg/Clearwater, FL	$7.19	-14%
90	Germany	Cologne	$7.18	8%
91	U.S.	Baltimore, MD	$7.15	5%
92	Indonesia	Jakarta	$7.09	-100%
93	U.S.	Orlando, FL	$7.07	9%
94	Hungary	Gyor	$6.98	17%
95	Spain	Madrid	$6.98	0%
96	U.S.	Sacramento, CA	$6.84	-12%
97	U.S.	Tampa, FL	$6.83	6%
98	China	Foshan	$6.79	12%
99	China	Kunshan	$6.76	0%
100	Australia	Melbourne	$6.76	2%
101	Croatia	Zagreb	$6.65	11%
102	Italy	Genoa	$6.65	0%
103	Netherlands	The Hague	$6.65	9%
104	Netherlands	Eindhoven	$6.65	0%
105	U.S.	Tucson, AZ	$6.64	1%
106	U.S.	New Haven, CT	$6.59	8%
107	Canada	Montreal	$6.57	0%
108	Hungary	Budapest	$6.52	1%
109	U.S.	Buffalo, NY	$6.50	49%
110	U.S.	Omaha, NE	$6.50	8%
111	U.S.	Salt Lake City, UT	$6.49	4%
112	China	Suzhou	$6.48	6%
113	U.S.	Detroit, MI	$6.45	4%
114	Belgium	Brussels	$6.43	0%
115	France	Paris	$6.43	2%
116	Estonia	Tallinn	$6.38	0%
117	Lithuania	Vilnius	$6.38	-4%
118	Lithuania	Kaunas	$6.38	-4%
119	U.S.	Reno, NV	$6.36	33%
120	Germany	Duisburg	$6.32	3%
121	China	Hangzhou	$6.31	1%
122	U.S.	Central Valley CA	$6.30	17%
123	U.S.	Philadelphia, PA	$6.28	7%
124	U.S.	Fredericksburg, VA	$6.27	3%

RANK	COUNTRY	MARKET	USD SQFT/YEAR	2019-2020
125	U.S.	Pittsburgh, PA	$6.25	-12%
126	Germany	Dortmund	$6.25	4%
127	Italy	Milan	$6.21	0%
128	Netherlands	Tilburg	$6.21	2%
129	U.S.	Houston, TX	$6.16	4%
130	Italy	Rome	$6.09	0%
131	Netherlands	Nijmegen	$6.09	4%
132	Austria	Graz	$5.98	0%
133	Austria	Linz	$5.98	0%
134	Austria	Salzburg	$5.98	0%
135	Austria	Innsbruck	$5.98	0%
136	Hungary	Debrecen	$5.98	6%
137	Latvia	Riga	$5.98	0%
138	Lithuania	Klaipeda	$5.98	-5%
139	Serbia	Belgrade	$5.98	0%
140	China	Jiaxing	$5.96	9%
141	Thailand	Bangkok	$5.88	3%
142	Italy	Bologna	$5.87	2%
143	U.S.	Hampton Roads, VA	$5.80	4%
144	France	Lyon	$5.76	6%
145	Netherlands	Venlo	$5.76	4%
146	Russia	St Petersburg	$5.74	-3%
147	U.S.	Charleston, SC	$5.74	1%
148	Czech Republic	Prague	$5.72	1%
149	Germany	Leipzig	$5.72	2%
150	Germany	Kassel	$5.72	0%
151	China	Wuxi	$5.69	2%
152	China	Tianjin	$5.68	-6%
153	Greece	Athens	$5.65	0%
154	Malaysia	Kuala Lumpur	$5.64	n.a.
155	China	Nanjing	$5.59	6%
156	Czech Republic	Pilsen	$5.59	0%
157	Hungary	Miskolc	$5.59	1%
158	Hungary	Szekesfehervar	$5.59	2%
159	Ukraine	Kyiv	$5.57	0%
160	Romania	Bucharest	$5.52	4%
161	U.S.	Hartford, CT	$5.49	6%
162	U.S.	Chicago, IL	$5.46	2%
163	Germany	Essen	$5.45	2%
164	U.S.	San Antonio, TX	$5.45	-10%
165	France	Toulouse	$5.43	0%
166	U.S.	Rochester, NY	$5.40	0%

RANK	COUNTRY	MARKET	USD SQFT/YEAR	2019-2020
167	China	Zhengzhou	$5.36	11%
168	U.S.	Lakeland, FL	$5.33	2%
169	U.S.	Birmingham, AL	$5.32	9%
170	Belgium	Antwerp	$5.32	0%
171	Czech Republic	Brno	$5.32	0%
172	France	Strasbourg	$5.32	2%
173	Netherlands	Maastricht	$5.32	0%
174	Portugal	Lisbon	$5.32	0%
175	Slovakia	Bratislava	$5.32	0%
176	Czech Republic	Ostrava	$5.25	-1%
177	U.S.	Tulsa, OK	$5.24	7%
178	Russia	Moscow	$5.23	-8%
179	U.S.	Dallas/Ft. Worth, TX	$5.22	5%
180	U.S.	Charlotte, NC	$5.21	-5%
181	Denmark	Odense	$5.21	0%
182	Italy	Verona	$5.21	2%
183	Italy	Piacenza	$5.21	4%
184	Portugal	Oporto	$5.12	0%
185	U.S.	Minneapolis, MN	$5.11	-1%
186	France	Lille	$5.10	2%
187	U.S.	Savannah, GA	$5.06	6%
188	Bulgaria	Sofia	$5.05	0%
189	Poland	Warsaw	$5.05	0%
190	U.S.	Jacksonville, FL	$5.05	4%
191	U.S.	Pennsylvania I-81/I-78 Corridor	$5.04	6%
192	Turkey	Istanbul	$5.02	-18%
193	France	Marseille	$4.99	0%
194	France	Bordeaux	$4.99	0%
195	Italy	Turin	$4.99	0%
196	Romania	Brasov	$4.99	0%
197	Romania	Timisoara	$4.99	0%
198	Romania	Constanta	$4.99	0%
199	Vietnam	Hanoi	$4.94	5%
200	Poland	Krakow	$4.92	0%
201	U.S.	Atlanta, GA	$4.90	9%
202	China	Qingdao	$4.88	-3%
203	Belgium	Ghent	$4.88	0%
204	U.S.	El Paso, TX	$4.85	8%
205	U.S.	Providence, RI**	$4.85	0%
206	U.S.	St. Louis, MO	$4.79	4%
207	Poland	Katowice	$4.79	0%
208	Poland	Poznan	$4.79	0%

RANK	COUNTRY	MARKET	USD SQFT/YEAR	2019-2020
209	Poland	Lodz	$4.79	0%
210	Poland	Wroclaw	$4.79	0%
211	Poland	Gdansk	$4.79	0%
212	Poland	Szczecin	$4.79	3%
213	Belgium	Liege	$4.76	0%
214	Belgium	Genk	$4.76	0%
215	France	Nice	$4.76	0%
216	France	Nantes	$4.76	0%
217	France	Le Havre	$4.76	0%
218	U.S.	Binghamton, NY	$4.72	0%
219	China	Nantong	$4.71	2%
220	U.S.	Richmond, VA	$4.66	-5%
221	China	Wuhan	$4.66	1%
222	Macedonia	Skopje	$4.65	0%
223	U.S.	Indianapolis, IN	$4.64	6%
224	China	Xi'an	$4.63	-5%
225	U.S.	Syracuse, NY	$4.63	0%
226	U.S.	Milwaukee, WI	$4.58	2%
227	China	Chengdu	$4.56	-1%
228	Vietnam	Ho Chi Minh City	$4.51	5%
229	China	Shenyang	$4.47	-8%
230	U.S.	Cincinnati, OH	$4.46	2%
231	China	Chongqing	$4.42	1%
232	U.S.	Kansas City, MO	$4.31	0%
233	U.S.	Roanoke, VA	$4.27	-1%
234	India	Bengaluru	$4.24	-8%
235	China	Dalian	$4.23	-16%
236	U.S.	Louisville, KY	$4.20	0%
237	U.S.	Cleveland, OH	$4.15	0%
238	India	Mumbai	$4.15	5%
239	India	Pune	$4.08	2%
240	U.S.	Greenville, SC	$4.06	5%
241	U.S.	Columbus, OH	$3.95	4%
242	Greece	Thessaloniki	$3.72	0%
243	India	Kolkata	$3.70	0%
244	U.S.	Memphis, TN	$3.61	12%
245	India	Chennai	$3.41	0%
246	India	NCR	$3.27	0%
247	Turkey	Ankara	$3.07	-15%
248	Turkey	Izmir	$2.79	-17%
249	India	Ahmedabad	$2.61	0%
250	India	Hyderabad	$2.45	3%

CUSHMAN & WAKEFIELD

Cushman & Wakefield is a leading global real estate services firm that helps clients transform the way people work, shop, and live.

Cushman & Wakefield (NYSE: CWK) is a leading global real estate services firm that delivers exceptional value for real estate occupiers and owners. Cushman & Wakefield is among the largest real estate services firms with approximately 50,000 employees in 400 offices and 60 countries. In 2020, the firm had revenue of $87.8 billion across core services of property, facilities and project management, leasing, capital markets, valuation and other services. To learn more, visit www.cushmanwakefield.com or follow @CushWake on Twitter.

AUTHORS:

Jason Tolliver
Investor Lead, Logistics & Industrial Services, Americas

Lisa Graham
Head of EMEA Industrial Research

Dr. Dominic Brown
Global Head of Demographic Insights, APAC-lead

CUSHMAN & WAKEFIELD