mapletree
logistics

MAPLETREE LOGISTICS TRUST

BUILDING RESILIENCE ENHANCING VALUE

INDEPENDENT MARKET RESEARCH REPORT 2022/2023

IN THIS **REPORT**

ACCESSIBILITY OF ANNUAL REPORTS

The Annual Report for FY22/23 is available for viewing and download on our website: www.mapletreelogisticstrust.com

CORPORATE **PROFILE**

Mapletree Logistics Trust ("MLT" or "the Trust") is Singapore's first Asia Pacific focused logistics real estate investment trust. Listed on the Singapore Exchange Securities Trading Limited in 2005, MLT invests in a diversified portfolio of quality, well-located income-producing logistics real estate in Singapore, Australia, China, Hong Kong SAR, India, Japan, Malaysia, South Korea and Vietnam.

MLT is managed by Mapletree Logistics Trust Management Ltd. (the "Manager"), a wholly-owned subsidiary of Mapletree Investments Pte Ltd (the "Sponsor"). The Sponsor is a leading real estate development, investment, capital and property management company headquartered in Singapore.

The Manager is committed to providing Unitholders with competitive total returns through the following strategies:

a. optimising organic growth and hence, property yield from the existing portfolio;
b. making yield accretive acquisitions of good quality logistics properties; and
c. managing capital to maintain MLT's strong balance sheet and provide financial flexibility for growth.

OUR **VISION**

To be the preferred real estate partner of choice to customers requiring high-quality logistics and distribution spaces in Asia Pacific.

OUR **MISSION**

To provide Unitholders with competitive total returns through regular distributions and growth in asset value.

SINGAPORE
INDEPENDENT MARKET RESEARCH
By Jones Lang LaSalle Incorporated

SINGAPORE MACROECONOMIC OVERVIEW

Singapore's Gross Domestic Product ("GDP") growth slowed from 8.9% year-on-year ("y-o-y") in 2021, to 3.6% y-o-y in 2022. This followed a moderation in manufacturing output growth from 13.3% y-o-y in 2021, to 2.5% y-o-y in 2022. The construction and services producing industries also recorded slower y-o-y output growth of 6.7% and 4.8% in 2022, compared to 20.5% and 7.6% in 2021, respectively.

Advance estimates released by the Ministry of Trade and Industry ("MTI") on 14 April 2023 showed Singapore's economic growth slowed for the third consecutive quarter in 1Q23. The sluggish 0.1% y-o-y GDP growth came on the back of a sharper y-o-y contraction in manufacturing output from -2.6% in 4Q22, to -6.0% in 1Q23. The construction and services producing industries stayed expansionary but recorded slower y-o-y growth in 1Q23.

Based on the Monetary Authority of Singapore's Monetary Policy Statement released on 14 April 2023, Singapore's GDP growth is expected to slow to 0.5-2.5% in 2023. This considered the continued presence of downside risks, including the rising interest rates and geopolitical tensions. While China's faster-than-expected easing of its COVID-19 restrictions could help boost 2023's growth, this may not be significant as the re-opening will mainly benefit its domestic-facing services.

RECENT GOVERNMENT POLICIES AND MEASURES AFFECTING THE INDUSTRIAL PROPERTY MARKET

Singapore Economy 2030 Vision

The Singapore Economy 2030 vision, anchored by the four key pillars summarised below, was unveiled in March 2022 to strengthen Singapore's economic resilience and competitiveness in the face of global challenges (Figure 1). In particular, the Manufacturing 2030 and Trade 2030 pillars will reinforce Singapore's positioning as a leading advanced manufacturing and trading hub, and potentially yield new industrial (including logistics/warehouse) space requirements.

Figure 1:
Four Pillars of the Singapore Economy 2030 Vision

Pillar	Summary
Manufacturing 2030	• To position Singapore as a global business, innovation and talent hub for advanced manufacturing • To grow the value-add of the manufacturing sector by 50% between 2020 and 2030
Trade 2030	• Increase Singapore's trading volumes and widen Singapore's trading activities and markets • From 2020 to 2030, grow Singapore's export from about SGD 800 billion to at least SGD 1 trillion, and double offshore trade from USD 1 trillion to USD 2 trillion
Enterprise 2030	• To evolve a vibrant ecosystem of Singapore enterprises that are innovative, globally competitive and future ready • These enterprises will, in turn, create good jobs and meaningful careers for Singaporeans
Services 2030	• To grow the services sectors and anchor Singapore as a leading, vibrant hub for businesses, lifestyle and tourism • To entrench Singapore as a hub of firms, a hub of flows and a hub of talents, by harnessing new growth opportunities in sustainability and digitalisation

Source: MTI, JLL Research

Update on the Industry Transformation Map Programme (ITM 2025)

In April 2021, the Government announced that the 23 Industry Transformation Maps ("ITMs") introduced in 2016 will be refreshed over the next five years. Notably, the updated ITMs for five sectors comprising Electronics, Precision Engineering, Energy and Chemicals, Aerospace and Logistics were unveiled in October 2022[1] to drive Singapore towards its Manufacturing 2030 goal, while the refreshed ITMs for Food Services and Food Manufacturing could generate new business requirements arising from food innovations and consumer lifestyle changes including Ready-to-Eat meals, demand for food delivery services and alternative proteins. The refreshed Retail ITM which encourages the continued transformation and growth of the sector could see more retailers embarking on omni-retailing strategies and adopting e-commerce to increase or diversify their revenue streams.

Overall, these updated ITMs could change business operating models, spark new business ideas, and generate new industrial (including logistics/warehouse) space needs (Figure 2).

1 Source: EDB's press release "New Growth Strategies to Drive Advanced Manufacturing Across Five Sectors in Singapore" on 18 October 2022

Figure 2:
Refreshed ITMs 2025 Relevant to Industrial Property Sector

Industry Cluster	Industries	Strategies
Manufacturing (updated 18 Oct 2022)	• **Precision Engineering** – To enable the industry to capitalise on digital manufacturing technologies and platforms to innovate and deliver competitive products and services for global markets.	1. Partnering with enterprises to digitalise and go global 2. Growing enterprise revenue for precision engineering firms 3. Creating good jobs for Singaporeans in growth sectors
	• **Electronics industry** – To ride on the global growth momentum and cement Singapore's position as a key manufacturing and R&D hub for higher value-added electronic components.	1. Anchoring R&D and manufacturing capabilities 2. Strengthening the local talent pipeline 3. Transforming Electronics manufacturing to a low-carbon footprint sector 4. Trade associations and chambers as a key partner
	• **Aerospace** – To cement Singapore's position as a global node for aerospace manufacturing and MRO activities, with leadership in engine MRO.	1. Singapore as a global node for aerospace manufacturing and MRO, with leadership in engine MRO 2. Driving transformation through technology 3. Helping Small and Medium-Sized Enterprises ("SMEs") fly high on the global stage 4. Investing in talent 5. Gearing up for sustainability and Advanced Air Mobility 6. Emerging stronger through tripartism and partnerships with Industry Associations
	• **Energy & Chemicals** – To help the sector decarbonise, while seizing opportunities arising from the green economy and the continued demand for chemicals across Asia.	1. Shift to high-value chemicals and specialty chemicals 2. Spearhead energy transition to capture green growth opportunities 3. Equip Singaporeans for exciting new jobs 4. Growing innovation capabilities with private and public sectors
Trade & Connectivity	• **Logistics** (updated 18 Oct 2022) – To position Singapore as a world-class logistics hub in Asia with a focus on transforming the industry through productivity and innovation and strengthening Singapore's role as a critical node in global supply chains.	1. Attract new investments and transform warehouse operations 2. Create quality jobs; focus on job redesign 3. Digitalise the sector to drive productivity initiatives 4. Support companies' internationalisation efforts
Lifestyle	• **Food Services** (updated 19 May 2022) – To catalyse innovation to create new revenue streams among enterprises and encourage ready and able food companies to capture new growth opportunities domestically and globally.	1. Catalyse innovation to drive new revenue streams 2. Grow homegrown regional brands and supporting internationalization 3. Groom digital champions and strengthening competencies of enterprises 4. Step up job transformation and creating quality roles for locals
	• **Food Manufacturing** (updated 14 Dec 2022) – To establish Singapore as a trusted food and nutrition leader, and the preferred launchpad into Asia for quality brands.	1. Groom local champions through internationalisation and innovation 2. Elevate Singapore's attractiveness as a regional food hub 3. Build resilient and sustainable companies 4. Step up workforce transformation and create quality jobs for locals
	• **Retail** (updated 7 Oct 2022) – To strengthen Singapore as a global lifestyle and retail hub through internationalisation, anchored with new experiential concepts and innovative products	1. Build global Singapore brands and provide access to international B2C e-marketplaces via working with e-commerce platforms 2. Rejuvenate retail by catalysing new experiential concepts and innovations 3. Strengthen Singapore's position as a vibrant lifestyle hub for global brands 4. Step up jobs and skills transformation and creating quality roles for locals

Source: EDB, MTI, Enterprise Singapore, JLL Research

SINGAPORE
INDEPENDENT MARKET RESEARCH

Revised Buyer's Stamp Duty for Non-Residential Properties

During the Budget 2023 announcement on 14 February 2023, the Government raised the Buyer's Stamp Duty ("BSD") for higher value non-residential properties. As shown in Figure 3, a new marginal BSD rate of 4% will apply to the portion of the property value above SGD 1 million and up to SGD 1.5 million; and 5% will apply to the portion of the property value above SGD 1.5 million. This is expected to raise the total acquisition cost, especially for higher value industrial properties. Hence, the revised BSD would encourage alternative deal structuring that involves lower acquisition costs for big ticket deals.

Figure 3:
Revised Buyer's Stamp Duty for Non-Residential Properties

	Marginal BSD Rate	
Property Value	On or before 14 February 2023	On or after 15 February 2023
First SGD 180,000	1%	1%
Next SGD 180,000	2%	2%
Next SGD 640,000	3%	3%
Next SGD 500,000	3%	4%
In excess of SGD 1,500,000	3%	5%

Source: Ministry of Finance

ISLANDWIDE LOGISTICS/ WAREHOUSE MARKET OVERVIEW

Existing Supply, Demand and Occupancy

Singapore's islandwide logistics/ warehouse stock stood at 124.4 million sq ft as of 1Q23, with the majority 96.8% held by the private sector and the balance 3.2% by the public sector.

Major completions in 2022 included LOGOS Penjuru Logistics Hub and LOGOS Tuas Logistics Hub which collectively added more than a million sq ft of new space. However, the total net space addition of 1.2 million sq ft in 2022 was lower than the 2.4 million sq ft in 2021.

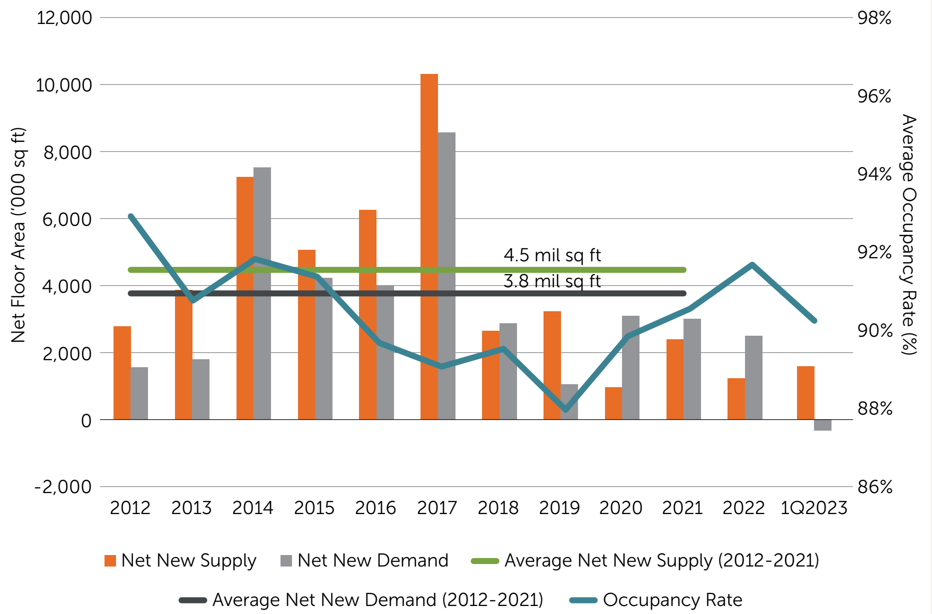
Meanwhile, demand for logistics/ warehouse space stayed healthy in 2022, supported by third-party logistics ("3PLs") players and end-users from a broad base of industries with expansion needs, firms in the e-commerce business and those seeking temperature-controlled premises. There were also requirements from new-to-Singapore companies and those with an office presence, looking to set up regional distribution centres.

For example, Global Cold Chain Solutions, Catalent and Envirotainer opened new premises which are equipped with temperature-controlled rooms and freezers in 2022. E-commerce enabler CREA opened a new warehouse in Singapore with an aim to strengthen its regional presence and logistics network, while Schneider Electric launched a regional distribution centre in LOGOS Tuas Logistics Hub with a 30% increase in operational capacity in 2022, compared to its previous Penjuru facility.

Against this backdrop, total net space absorption stayed expansionary at 2.5 million sq ft in 2022, albeit lower than the 3.0 million sq ft recorded in 2021. As net space absorption surpassed net space addition, this lifted the islandwide average logistics/warehouse occupancy rate to an eight-year high of 91.7% as of end-2022, from 90.6% as of end-2021.

Although the occupancy rate eased to 90.3% in 1Q23 following a surge in net space addition to a 19-quarter high of 1.6 million sq ft, space available for lease

Figure 4:
Net New Supply, Net New Demand and Average Occupancy of Logistics/Warehouse Space



Source: JTC, JLL Research

remained limited as most of the new supply were from single-user facilities intended predominantly for self-use. On the other hand, demand for logistics/warehouse space stayed healthy with end-users and 3PLs continuing to seek spaces for their expansion needs. This included unfulfilled demand from earlier quarters (Figure 4).

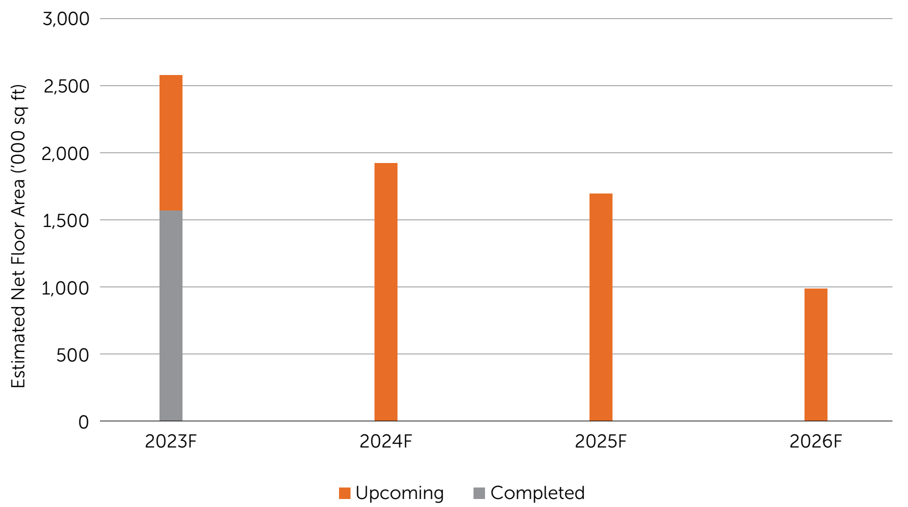
Potential Supply

Based on JTC's latest list of projects in the pipeline as of 1Q23 and JLL's research, there are an estimated 5.7 million sq ft[2] (net floor area) of new logistics/warehouse space completing from 2Q23 to 2026 (Figure 5, Figure 6). JLL estimates that about 44.8% of this total pipeline supply are single-user premises intended mostly for self-use, and 55.2% are multiple-user spaces. Without factoring in stock withdrawals and change of use, the pipeline supply will raise the islandwide stock as of 1Q23 by 4.6%, to around 130 million sq ft by end-2026.

In terms of year of completion, new supply is anticipated to rise to about 2.6 million sq ft in 2023 (inclusive of net additions in 1Q23), before tapering to around 2.0 million sq ft, 1.7 million sq ft and 1.0 million sq ft in 2024, 2025 and 2026, respectively. However, the medium-term pipeline supply could change should new projects be announced in the near term, including from owners embarking on refurbishment or redevelopment plans for their aging assets.

On average, the annual projected new supply of about 1.8 million sq ft from 2023 (full year) to 2026 is lower than the average annual net new supply of about 2.0 million sq ft in the prior four years from 2019 to 2022.

Figure 5:
Potential Supply of Islandwide Logistics/Warehouse Space (2023 to 2026)



Source: JTC, JLL Research

Figure 6:
Examples of Major* Upcoming Logistics/Warehouse Developments in 2023

Name of Development	Location	Planning Region	Name of Developer	Approximate Gross Floor Area (sq ft)
2PS1**	2 Pioneer Sector 1	West	Soilbuild Business Space REIT	757,026
Fairprice Group Fresh Food Distribution Centre (Phase 2** & 3)	7 Sunview Road	West	NTUC Fairprice Co-operative Ltd	658,105
JTC Logistics Hub@ Gul (Phase 2)	1 Gul Circle	West	JTC Corporation	589,647
Warehouse development**	12 Penjuru Lane	West	ACW Holdings Pte Ltd	487,282
Soon Bee Huat Building**	32 Penjuru Lane	West	Soon Bee Huat Trading Pte Ltd	261,778

*Refers to developments with approximate gross floor area of at least 150,000 sq ft.
**Completed in 1Q23.
Source: JTC, JLL Research

2 Potential supply includes space under construction and planned. However, the actual level of new supply could change due to amendments to the estimated gross floor area, as well as the status of planned projects.

SINGAPORE
INDEPENDENT MARKET RESEARCH

Rents

JTC's warehouse rental index, which is based on transactions of private warehouses, rose at a faster pace of 7.9% y-o-y in 2022, from 2.7% y-o-y in 2021 (Figure 7). The fastest annual rent growth recorded in 10 years was driven by healthy demand but limited space availability for quality logistics/warehouse premises. Fuelled by the persistent supply crunch, the warehouse rental index rose by 2.9% q-o-q in 1Q23, posting its strongest q-o-q increase since the 3.4% q-o-q growth recorded in 4Q13.

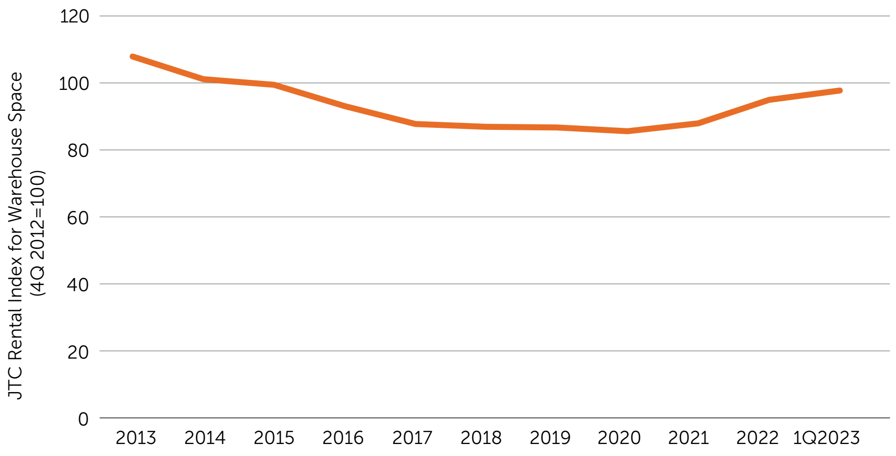
Based on leasing transactions in 1Q23 that were captured by J-Space, the islandwide 25th percentile, median and 75th percentile warehouse rents stood at SGD 1.50, SGD 1.90 and SGD 2.50 per sq ft per month, respectively.

Prices

JTC has not published the warehouse price index since 4Q14 due to the limitations posed by thin transaction activity.

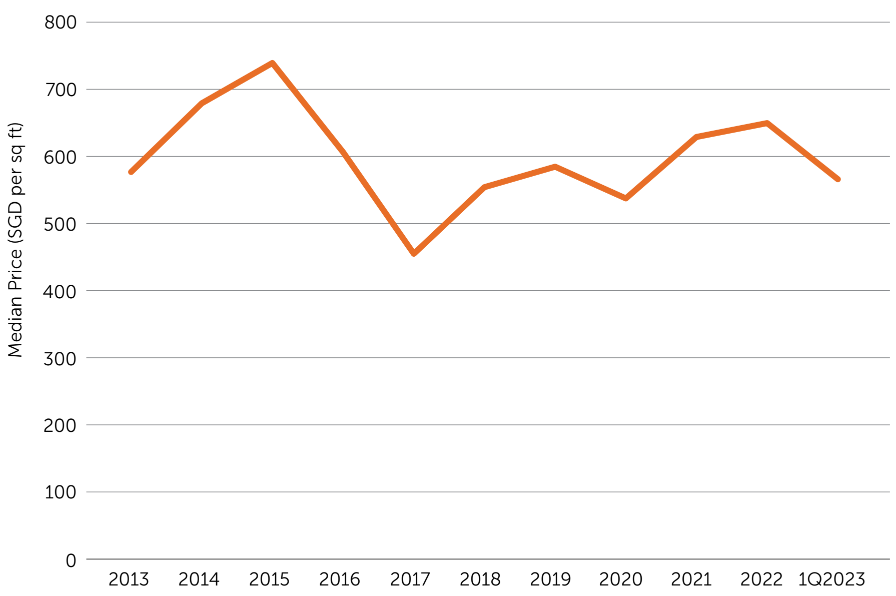
Based on data downloaded from JTC's J-Space on 3 May 2023, the median price for strata-titled warehouses stood at SGD 654 per sq ft (based on strata area) in 4Q22, 3.3% higher than the median price of SGD 633 per sq ft for similar transactions in 4Q21 (Figure 8). As of 1Q23, the median price stood at SGD 569 per sq ft. However, the limitations of median prices derived from a small number of transactional records in a non-homogeneous market for trend analysis should be noted, with J-Space capturing 112 and 107 caveats involving strata-titled warehouse transactions in 2021 and 2022, respectively.

Figure 7:
JTC Rental Index for Warehouse Space (2013 to 1Q 2023)



*JTC's rental indices are based on transactions of private warehouse developments.
Source: JTC, JLL Research

Figure 8:
Median Prices* of Warehouse Space (2013 to 1Q 2023)



*Based on strata area
Source: JTC, JLL Research

Major Investment Sales

Based on information collated by JLL Research as of 21 April 2023, an estimated SGD 0.4 billion worth of warehouses (excluding development sites and self-storage facilities) of at least SGD 5 million apiece were transacted in 2022, on par with 2021. While acquisition interest stays elevated, there were fewer deals compared to 2021 due to a lack of suitable trading stock.

The largest warehouse deal in 2022 involved the sale of the 100% interest in the holding entity of 1 Buroh Lane – a five-storey ramp-up facility with chiller, freezer, airconditioned and ambient storage space as well as ancillary office space – for SGD 191.9 million. Another notable transaction involved the acquisition of Enterprise Logistics Centre, a two-storey ramp-up warehouse with mezzanine office space, by a Singapore unit of Hong Kong-based Intex Development Company Limited from Far East Organization for SGD 120.6 million.

There were two known warehouse deals with a cumulative worth of about SGD 52.2 million in 1Q23. Notably, the sale-and-leaseback of Iron Mountain's warehouse at 26 Chin Bee Drive to an indirect wholly-owned subsidiary of variable capital company (VCC) ARA-Kenedix SJ Real Estate Fund fetched SGD 47.0 million. The property has a land tenure of 30 years starting from 1 April 2001, with an option to renew the lease for 19 years subject to approval from JTC Corporation and the payment of an upfront land premium.

Examples of major logistics/warehouse investment sales in 2022 and 1Q23 (based on available market information/ transaction records) are provided in the following table (Figure 9).

Figure 9:
Examples of Major* Logistics/Warehouse Transactions in 2022 and 1Q 2023

Period Sold	Name of Development	Location	Sale Price (SGD mil)	Approximate Land Area (sq ft)	Tenure
3Q22	Pandan Logistics Hub	49 Pandan Road	$43.5	133,680	30+30 Yrs From 01/10/1979
3Q22	N.A. (100% interest in A3 SG ETA PTE. LTD.)	1 Buroh Lane	$191.9	258,213	30 Yrs From 21/02/2013
4Q22	Enterprise Logistics Centre	2 Tuas View Place	$120.6	319,619	60 Yrs From 20/11/1995
4Q22	N.A.	3 Changi South Lane	$22.0	86,359	30+30 Yrs From 01/10/1998
1Q23	Iron Mountain Centre II	26 Chin Bee Drive	$47.0	93,315	30 Yrs From 01/04/2001

*Refers to transactions worth at least SGD 20 million each.
N.A. denotes "Not Available".
Source: JTC, REALIS, RCA, JLL Research (as of 21 April 2023)

Market Outlook

The ongoing geopolitical tensions, inflationary pressures and uncertainties over the global supply chain situation is expected to contribute to elevated levels of inventory holding including for essential items (e.g., food), and underpin near-term demand for logistics/warehouse space. However, the cloudy macroeconomic outlook as well as the expected weakness in manufacturing output and exports, could lead to some cautiousness among occupiers.

On the other hand, the availability of quality logistics/warehouse premises for lease is expected to stay tight in 2023, given the high commitment rates seen at recently completed or upcoming multi-tenanted logistics/warehouse developments.

Hence, demand for quality logistics/ warehouse space is likely to continue outstripping supply, thereby supporting further rent growth in 2023, albeit at a slower pace due to potential occupier rent hike resistance given the downcast macroeconomic outlook. Price growth is also expected to moderate in 2023 on the back of the slower rent growth and high interest rates.

AUSTRALIA
INDEPENDENT MARKET RESEARCH

By Jones Lang LaSalle Incorporated

MACRO-ECONOMIC OVERVIEW AND OUTLOOK

Australian Gross Domestic Product (GDP) growth has recovered from the cyclical low of 2020, where growth fell by 7.0%. In the 12 months to December 2022, domestic GDP growth reached 2.7%, driven largely from robust household consumption. In the December quarter, GDP increased 0.5%, marking the fifth consecutive quarter of positive GDP growth, although the rate of growth has been contracting for the past two consecutive quarters.

According to the NAB Monthly Business Survey (March 2023), business confidence rose 3 points to -1 index points, driven by the manufacturing sector. Business conditions declined 2 points to +16 points, however remains well above the long-term average.

The Reserve Bank of Australia (RBA) decided to leave rates unchanged for the first time in 12 months, leaving the cash rate at 3.60%. Since April 2022, the cash rate has tightened 350 bps in an effort to curb rising inflation.

As a result of a range of factors, particularly the tight global labor market, rising energy prices and supply chain bottlenecks, a high inflationary environment has emerged. Inflation is currently at 6.8% (February 2023), a reduction of 100 bps since December 2022.

The unemployment rate is currently 3.5% (as of March 2023), a slight increase from the historical lows in late 2022 (Australia Bureau of Statistics). The ANZ Australian Job Advertisement Series indicated a strong level of job listings across the entire workforce, despite some sectors reducing staff, implying that most businesses are still adopting an expansionary attitude.

In its most recent release (February 2023), the Reserve Bank of Australia noted:

- Inflation over the year to December quarter was 7.8 per cent, the highest since 1990 and higher than expected.
- However, inflation is expected to decline this year due to both global factors and slower growth in domestic demand, declining to 4.75% this year and around 3 percent by mid-2025.
- GDP growth is forecast to slow over the coming years, growing at approximately 1.5% for 2023 and 2024.

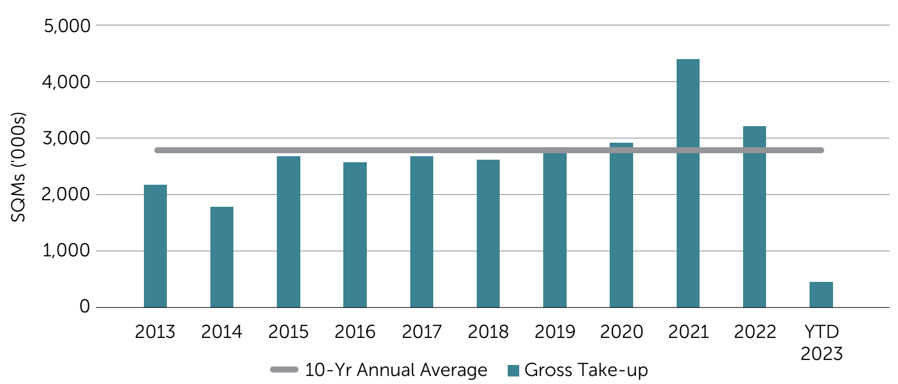
The size and timing of future interest rate increases will continue to be determined by the incoming data and the Board's assessment of the outlook for inflation and the labor market.

Notably, nominal bond rates rose sharply in 1H22 as high as 4.2%, before stabilising in 2H22, currently hovering around the 3.3% mark. Real bonds rates followed the same trend as inflation rose rapidly, peaking at 1.63% in October 2022, before tempering to 1.15% (March 2023).

INDUSTRIAL AND LOGISTICS SECTOR PERFORMANCE AND TRENDS

The Australian industrial & logistics sector has remained the most resilient out of the core commercial markets throughout 2022, following significant momentum throughout the pandemic. Significant structural tailwinds, many directly because of the pandemic, have supported significant tenant expansion across all tracked markets, which resulted in gross take-up in 2022 reaching 3.17 million sqm, the second highest total recorded, following the record year in 2021 (Figure 1). Elevated demand, in conjunction with record low vacancy, has resulted in record rental growth rates and robust investment volumes.

Figure 1:
National Industrial & Logistics Gross Take-up



Source: JLL Research as at 1Q23.

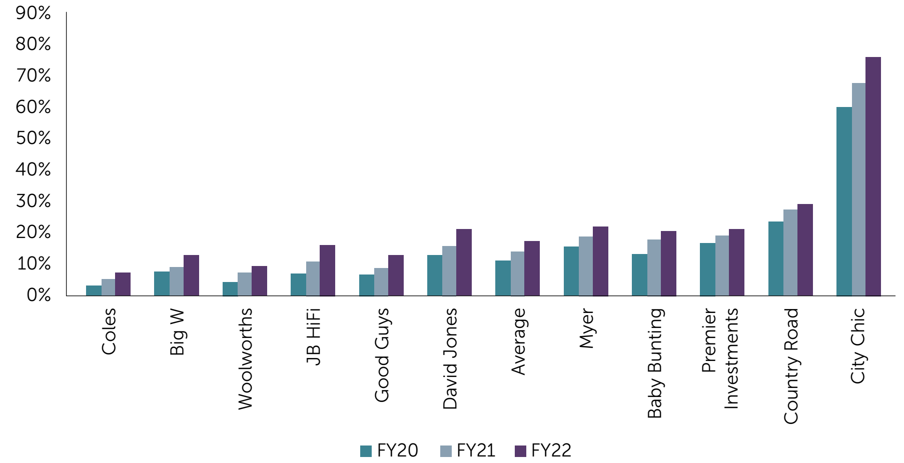
Existing structural tailwinds have supported the industrial sector over 2022, as the continued adoption of eCommerce has resulted in elevated take-up from the Transport, Postal and Warehousing and Retail Trade industries. Based on data released by the National Australia Bank, online sales accounted for 12.8% of retail activity as at February 2023. While this is a decline from the peak penetration rate of 14.4% (2021), the overall volume of online retail sales remains at a record high, exceeding the total in 2021 by AUD 400 million (AUD 53.3 billion).

This growth has had a material impact on industrial & logistics demand in Australia, as retailers and third-party logistics providers have been forced to increase their supply chain investment to improve delivery capacity to residential areas. This has resulted in a significant uptick in gross take-up from the Retail Trade & Transport, Postal and Warehousing sectors – having accounted for 1.9 million sqm gross take-up nationally in 2022 (10-year average – 1.45 million sqm).

Major retailers have been deriving a larger portion of total revenue from online sales since the beginning of the pandemic (Figure 2). However, this was a trend far earlier than the pandemic, as millennials begin to account for a larger proportion of total purchasing power. Of the retailers shown in Figure 2, the average internal penetration rate has increased from 4.2% in FY16 to 18.6% in FY22.

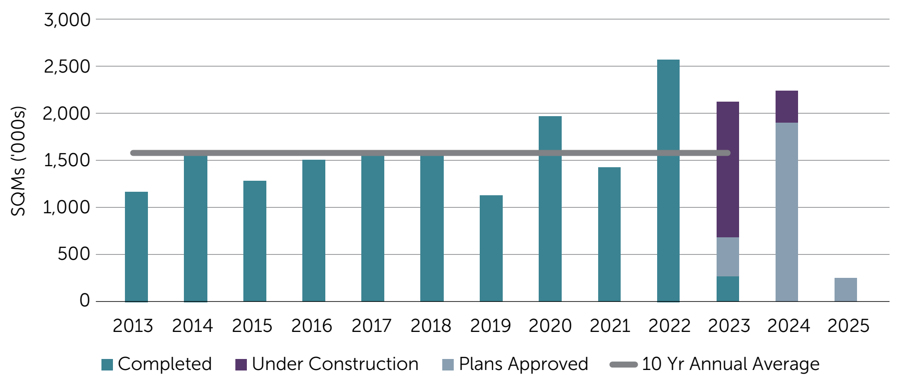
The trend of supply chain reconfiguration across the country has continued despite sustained disruptions within supply shipping networks across the world, which have placed upward pressure on costs and caused major interruptions to a range of industries. The Freightos Baltic Index (FBX) Global Container Index indicates that the average cost of shipping a 40-foot container increased by 769% from March 2020 to a peak of USD 11,100 in September 2021. However, since this peak container costs have declined to an average of USD 2,238 as of January 2023.

Figure 2:
Online Sales as a Percentage of Total Sales



Source: NAB, ABS, JLL Research. As at 4Q22.

Figure 3:
National development completions and forecast supply pipelines



Source: JLL Research as at 1Q23.

Whilst the focus on 'just-in-case' inventory management approaches is dissipating, occupiers are yet to return to the 'just-in-time' approach favoured pre-pandemic. Many occupiers continue to re-think their supply chain design, as resilience becomes increasingly important. The manufacturing sector has benefitted from structural tailwinds emerging from the pandemic. These include the increased onshoring of manufacturing of essential goods and construction materials. As such, gross take-up in the sector in 2022 totalled 743,410 sqm, 21.4% higher than the 10-year annual average (612,480 sqm) (Figure 3).

New stock delivery accelerated significantly in 2022, totalling 2.6 million sqm in 2022, the highest on record for the Australian industrial market. As a result of record investment and take-up in 2021, record supply levels have followed suit in 2022. Substantial pandemic-related delays throughout 2021 resulted in the completion of many projects being pushed to 2022, which was reinforced by the continued supply chain delays and increased construction costs experienced throughout 2022.

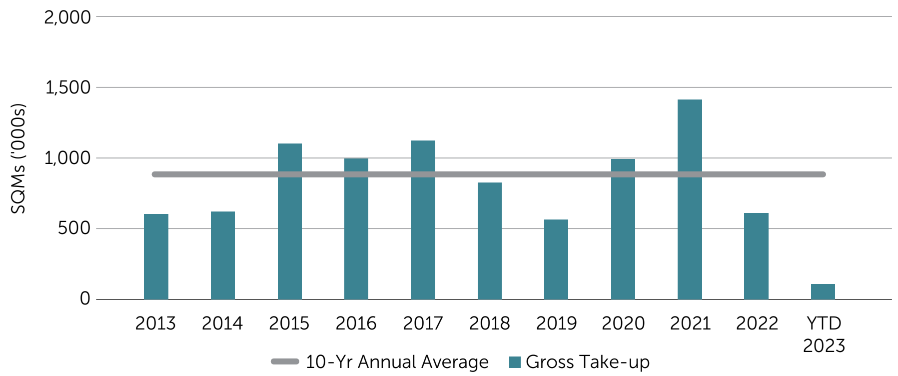
AUSTRALIA
INDEPENDENT MARKET RESEARCH

As a result of sustained occupier demand for industrial assets as well as increasingly tight vacancy, rental growth has reached record levels across the Australian industrial market in 2022. Nationally, prime rents increased by 22.9% in 2022 (AUD 158 per sqm p.a.), a figure more than double the second highest national annual growth figure of 9.84%, recorded in 1989. This has led to a notable increase in speculative stock delivery, as developers seek to capitalise on the record rental growth. Pre-commitment rates averaged 71.2% in 2022, a level below the 10-year annual average of 82.4%. However, given the volume of stock delivered this percentage reflects strong pre-commitment activity, with 1.8 million sqm absorbed compared to an average of 1.2 million sqm p.a. in the previous 10 years.

A total of 2,249,283 sqm of new stock is due to complete over 2023 across the country. Of this stock 955,357 sqm is due to complete over 1H23, with 71% of space already pre-committed to.

Higher bond rates and debt costs have resulted in the yield softening cycle beginning across the Australian industrial market. All markets saw softening across 2H22, with the national blended prime midpoint softening 64 bps over 2H22 to 4.80% as at 1Q23. As softening continues, the spread between real bonds and market yields for industrial assets has begun to increase from a record low of approximately 220 bps nationally in 1H22, to 315 bps as at 4Q22, but remains below the national historical spread over the last 15 years of 474 bps. Nationally, investment volumes totalled AUD 8.05 billion over 2022, a level 24.8% above the 10-year annual average (AUD 6.45 billion). This followed record transaction volumes in 2021 which were underpinned by multiple multi-billion-dollar portfolio transactions (AUD 18.13 billion). Slowing investment volumes are expected over the near-to-medium term as rising costs of capital restrict purchasing power.

Figure 4:
Sydney Gross Take-up



Source: JLL Research as at 1Q23.

Interestingly, transaction volumes in 2H22 exceeded the total for 1H22, despite increasing debt costs and worsening macroeconomic conditions. However, while both 1H22 and 2H22 volumes were elevated, 1H22 exceeded the 10-year first half average by 48.5%, while 2H22 exceeded the average by 17.2%, evidencing the relative slowdown over the year. A large degree of sales in 2H22 were derived from large institutional players selling assets in order to re-adjust to the changing economic environment. However, difficulties have arisen due to the mismatch in vendor and buyer expectations in terms of pricing, a theme which we expect to moderate over 1H23.

The proportion of assets sold for investment purposes increased incrementally each quarter throughout 2022, (Q1: 55%, Q2: 62%, Q3: 64%, Q4: 80%) while sales for development purposes inversely decreased throughout the year, likely as a result of increasing debt costs restricting development feasibilities.

INDUSTRIAL AND LOGISTICS MARKET OVERVIEWS

Sydney

Demand

Gross take-up totals were subdued in 2022, with full year take-up totaling 695,630 sqm; the lowest annual take-up figure since before the pandemic in 2019 (Figure 4). It is important to note that take-up figures were restricted substantially by a lack of available space, rather than a lack of demand from occupiers. Many occupiers were forced to compromise by taking short-term leases at smaller than desired facilities and deferring expansion until new stock is delivered in the future.

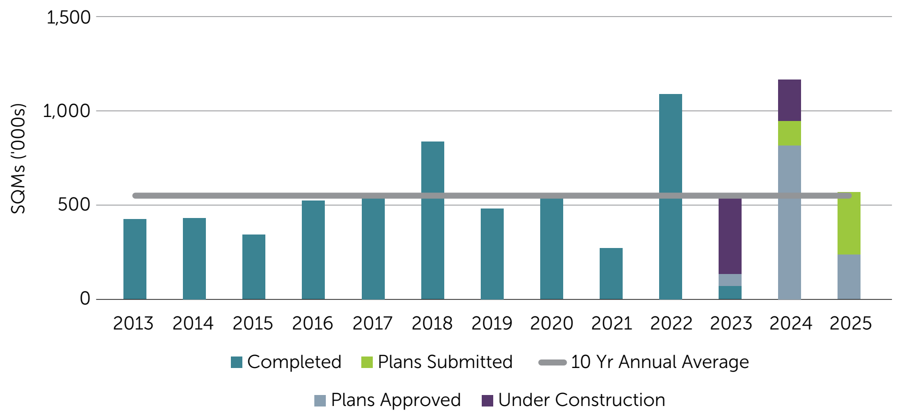
The Transport, Postal & Warehousing sector has dominated industrial demand in the Sydney market, accounting for 42% of gross take-up over 2022. This has primarily been driven by the continued strength of eCommerce.

Gross take-up in 1Q23 declined 5.2% q-o-q (110,150 sqm) and was below the 10-year quarterly average (223,790 sqm) for the fourth consecutive quarter. Demand was led by the Transport, Postal & Warehousing sector accounting for 35% of gross take-up (38,150 sqm). The Manufacturing and Construction sectors were responsible for the majority of remaining take-up, accounting for 19% (21,330 sqm) and 13% (14,720 sqm), respectively.

Supply
A total of 1,036,700 sqm of industrial floorspace was delivered in 2022, a record total since JLL began tracking the market in 1994. The annual completion total more than doubled the 10-year average of 493,780 sqm, with 77% of space being pre-committed to prior to practical completion.

The supply pipeline is expected to remain elevated in the short term, with a total of 591,210 sqm currently expected to complete over 2023 (Figure 5). Of this total, 617,220 sqm of space is already under construction, 38% of which has been pre-committed to.

Figure 5:
Sydney Industrial Supply Pipeline



Source: JLL Research as at 1Q23.

Prime rents
Record rental growth across the Sydney industrial & logistics sector was exhibited over 2022, leading the market nationally. The Outer Central West precinct led the Sydney market, increasing by 40.2% (y-o-y) to AUD 194 per sqm p.a., followed closely by the Outer North West (35.3% y-o-y), Outer South West (34.3% y-o-y) and South Sydney (22.1% y-o-y). Prime rental rates grew across all precincts in 1Q23, with the Inner West experiencing the most significant growth at 8.7% (q-o-q). Secondary rents outpaced the prime market in 1Q23, with the Outer South West experiencing the highest growth at 10.5% (q-o-q).

There has been consistent strong positive rental growth in the prime Sydney industrial market over the last five years. The market is expected to remain landlord favourable in 2023, though the record run in rental growth is slowing. Medium-long term rental growth will be supported by strong occupier demand, diminishing land supply and competing uses of assets.

Yield observations
Over the course of 2022, the average prime yield midpoint sharpened 32 bps to a record low 3.56% in 1Q22, before beginning to soften substantially in 3Q22 amid rising bond, interest and inflation rates. From a year-on-year perspective, the average prime yield midpoint softened 63.5 bps to 4.31% as at 4Q22. The secondary market experienced the same trend, however, to a slightly lesser extent, softening by 50 bps (y-o-y) to a midpoint of 4.69%. The South Sydney precinct has exhibited the greatest decompression over 2022, with prime yields softening by 68.5 bps, while all other precincts softened by 62.5 bps. Further softening was exhibited in 1Q23 with all precincts and grades decompressing by a further 25 bps, taking the average prime midpoint to 4.56% (Figure 6). The Outer Central West and South Sydney precincts remain the sharpest precincts in the country, with prime midpoints of 4.25%.

Figure 6:
Sydney Financial Indicators Summary

	Prime Existing Net Rents (AUD psm p.a.)			Capital Value Indicator			Prime Market Midpoint Yield		
	1Q23	Q-o-Q Change	Y-o-Y Change	1Q23	Q-o-Q Change	Y-o-Y Change	1Q23	Q-o-Q Change (bps)	Y-o-Y Change (bps)
Inner West	201	8.70%	21.70%	4,869	2.47%	-5.77%	4.50%	+25 bps	42.5 bps
North	249	1.00%	5.10%	N/A	N/A	N/A	5.13%	+25 bps	100 bps
Outer Central West	194	4.10%	40.20%	4,679	-2.07%	6.36%	4.25%	+25 bps	100 bps
Outer North West	182	5.80%	35.30%	N/A	N/A	N/A	4.63%	+25 bps	100 bps
Outer South West	176	4.00%	34.30%	N/A	N/A	N/A	4.63%	+25 bps	100 bps
South Sydney	283	3.70%	22.20%	6,024	-2.49%	-6.90%	4.25%	+25 bps	100 bps

Source: JLL Research. As at 1Q23.

AUSTRALIA
INDEPENDENT MARKET RESEARCH

Melbourne
Demand
Melbourne has led the nation in leasing activity since 2019, accounting for 44% of gross take-up during this period. In 2022, occupier activity in Melbourne totalled 1,449,350 sqm, the second highest level on record behind 2021 (Figure 7).

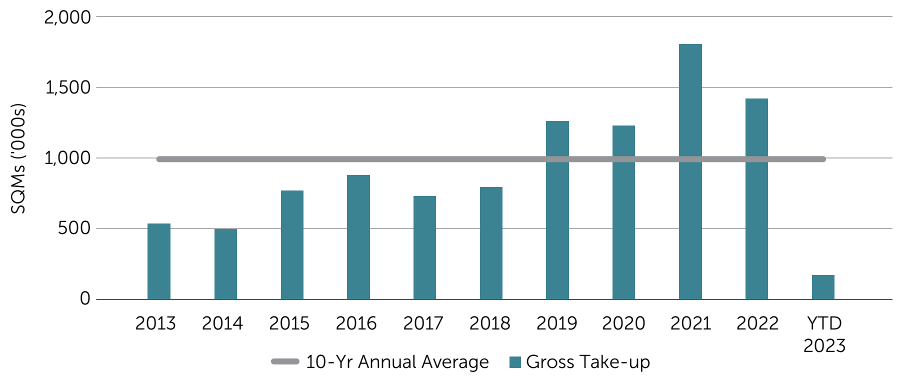
The West has been the epicentre for industrial demand in Melbourne over the last decade, accounting for 53% of all gross take-up over the period. Meanwhile, the South East has continued to record consistently strong take-up despite declining availability of land. The North precinct has become more active with its share of gross take-up increasing 33.3% in 2022 (y-o-y) to a total of 367,390 sqm, a level 119.4% above the 10-year annual average (167,470 sqm).

In 1Q23, gross take-up totalled 168,250 sqm, representing an 8% quarterly decline and a level 31.7% below the 10-year quarterly average (246,440 sqm). Take-up was split between the South East precinct (98,170 sqm), the West (50,160 sqm) and the North (19,920 sqm).

Supply
A total of 1,097,050 sqm of industrial floorspace was delivered in 2022, the highest level JLL has recorded in the Melbourne industrial market (Figure 8). Notably, pre-commitment levels at practical completion were the lowest since 2013, reaching 68.2%. This is reflective of developers' growing preference to build speculatively in order to capture the substantial rental growth which was evident throughout 2022.

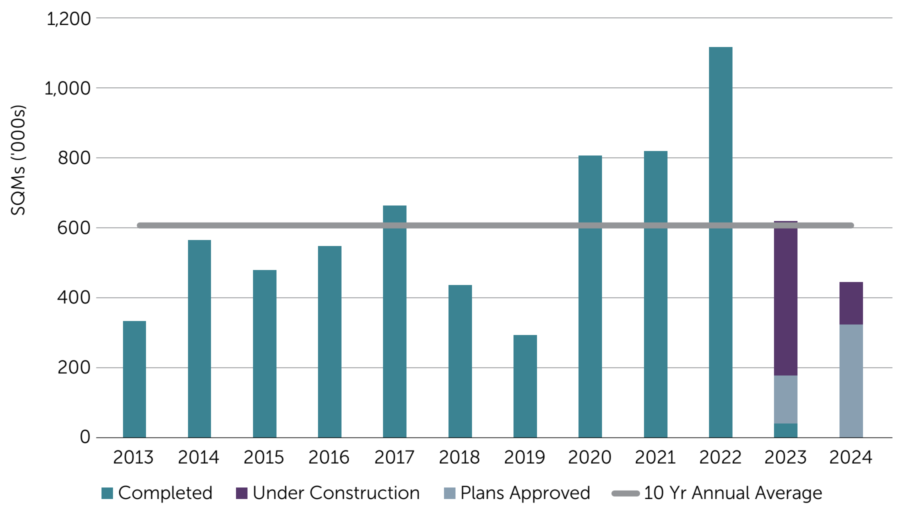
The development pipeline in the Melbourne industrial & logistics market is expected to slow, however, continue to deliver above-average volumes of stock. We are currently tracking 625,000 sqm of new stock, which is due to be delivered over the course of 2023, of which, 41,580 sqm was delivered in 1Q23.

Figure 7:
Melbourne Gross Take-up



Source: JLL Research as at 1Q23.

Figure 8:
Melbourne Industrial Supply Pipeline



Prime rents
Melbourne is one of the most affordable industrial & logistics markets in Australia, despite recording significant rental uplift during the last 12 months. Average prime rents increased by 21.4% over the past 12 months to AUD 128 psm p.a., while secondary net rents grew by 28.2% year-on-year to AUD 111 psm p.a. The North precinct experienced the strongest growth, increasing by 34.6% (y-o-y). In 1Q23, prime rents grew by an average of 4.9% (q-o-q) to AUD 128 per sqm p.a., while secondary rents grew by 8.0% (AUD 111 per sqm p.a.).

Melbourne's long-term prospects for strong population growth will continue to be a fundamental driver of growth for the industrial and logistics sector, with the city estimated to become the most populous in Australia by the end of the decade.

Yield observations
Yields began softening from record lows in 2022, decompressing by 72 bps in the prime market and 65.5 bps in the secondary market over 2022. The market-wide average prime yield midpoint is now 4.53% after 25 bps of softening in 1Q23, while the secondary midpoint is currently 5.21% (Figure 9). Further softening is expected in the short-to-medium term amid increasing interest, bond and inflation rates.

Figure 9:
Melbourne Financial Indicators Summary

	Prime Existing Net Rents (AUD psm p.a.)			Capital Value Indicator			Prime Market Midpoint Yield		
	1Q23	Q-o-Q Change	Y-o-Y Change	1Q23	Q-o-Q Change	Y-o-Y Change	1Q23	Q-o-Q Change (bps)	Y-o-Y Change (bps)
North	118	9.7%	34.6%	N/A	N/A	N/A	4.63%	+25 bps	100 bps
West	119	6.1%	30.1%	2,472	0.24%	1.36%	4.63%	+25 bps	100 bps
South East	127	5.7%	16.3%	2,794	0.25%	-8.81%	4.63%	+25 bps	100 bps

Source: JLL Research. As at 1Q23.

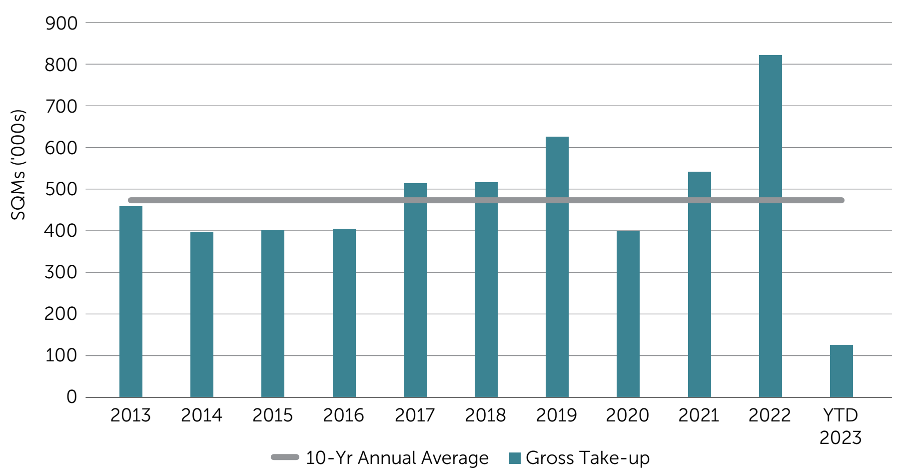
Brisbane

Demand
Gross take-up totalled 776,610 sqm in 2022, 61.1% above the 10-year annual average (482,100 sqm) and the highest annual take-up figure recorded since JLL began tracking the Brisbane industrial market in 2007 (Figure 10).

Leasing activity in 2022 was supported predominantly by the Transport, Postal & Warehousing (34%) and Manufacturing (30%) sectors. The Southern precinct accounted for 74% of take-up in 2022, followed by the Trade Coast (23%) and the Northern precinct (3%).

Take-up in 1Q23 totalled 124,100 sqm, in line with the 10-year quarterly average (125,190 sqm). Take-up was split between the Southern precinct (68,490 sqm), the Trade Coast (38,470 sqm) and the Northern precinct (17,150 sqm).

Figure 10:
Brisbane Gross Take-up



Source: JLL Research as at 1Q23.

AUSTRALIA
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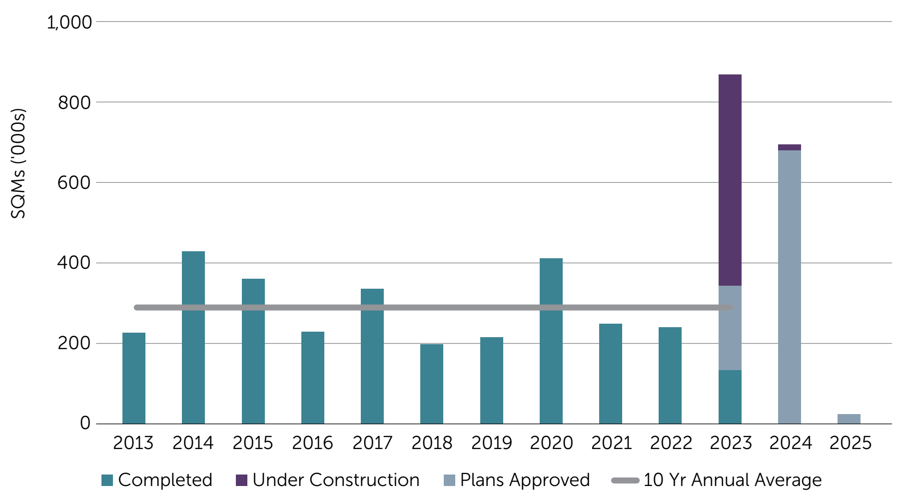
Supply
A total of 233,710 sqm of industrial floorspace was delivered in 2022, 22% below the 10-year annual average of 298,070 sqm (Figure 11). However, a significant uplift in completions occurred in 1Q23, totaling 138,510 sqm, the highest quarterly total since 4Q21.

New development completions are expected to be elevated in 2023, with current forecasts suggesting that totals will substantially exceed the previous annual record after widespread delays throughout 2022. There are currently 35 projects under construction, totaling 550,310 sqm, of which only 50% is currently pre-committed.

Prime rents
Prime net rents averaged AUD 144 psm p.a. in 1Q23, having recorded 16.3% growth over the past 12 months, while secondary rates average AUD 121 psm p.a., and have grown by 21.3% over the past year. Subdued levels of new stock delivery coupled with record occupier demand, has placed significant upward pressure on rental rates in the Brisbane industrial market. Prime rents grew by a further 4.5% in 1Q23 (AUD 144 per sqm p.a.), while secondary rents grew by 5.0% (AUD 121 per sqm p.a.)

Figure 11:
Brisbane Industrial Supply Pipeline



Source: JLL Research as at 1Q23.

Yield observations
In line with other markets, yields began softening over 2022, decompressing by 33.8 bps in the prime market and 33 bps in the secondary market. As at 1Q23, the prime average midpoint softened further to 5.23%, while the secondary average midpoint remained unchanged at 6.09% (Figure 12). Tightening monetary policy, as well as high bond rates and continuing inflationary pressures, has resulted in substantial decompression in the Brisbane industrial market. However, volatility in the Brisbane market has been more moderate than other Australian markets, with the average prime midpoint yield coming in by just 27.5 bps over the past 12 months, compared to the national weighted average of 34 bps. A moderate degree of softening is expected over 2023.

Figure 12:
Brisbane Financial Indicators Summary

	Prime Existing Net Rents (AUD psm p.a.)			Capital Value Indicator			Prime Market Midpoint Yield		
	1Q23	Q-o-Q Change	Y-o-Y Change	1Q23	Q-o-Q Change	Y-o-Y Change	1Q23	Q-o-Q Change (bps)	Y-o-Y Change (bps)
Northern	146	-0.4%	12.2%	N/A	N/A	N/A	5.25%	+25 bps	63 bps
Southern	134	6.0%	15.9%	2,475	0.75%	-1.01%	5.25%	+25 bps	75 bps
Trade Coast	151	8.2%	20.8%	N/A	N/A	N/A	5.20%	+20 bps	58 bps

Source: JLL Research. As at 1Q23.

Adelaide

Demand

Gross annual take-up in 2022 totalled 103,450 sqm, a level 35% below the 10-year annual average (159,090 sqm) (Figure 13). This is the lowest annual take-up figure in the Adelaide industrial market since 2016.

Notably, the Transport, Postal & Warehousing sector accounted for 41% of take-up in 2022, nearly doubling the 10-year average (22%). Manufacturing accounted for 38% of take-up, in line with historical averages, while the Retail Trade sector accounted for only 10% of take-up, a figure 10 percentage points below the 10-year average.

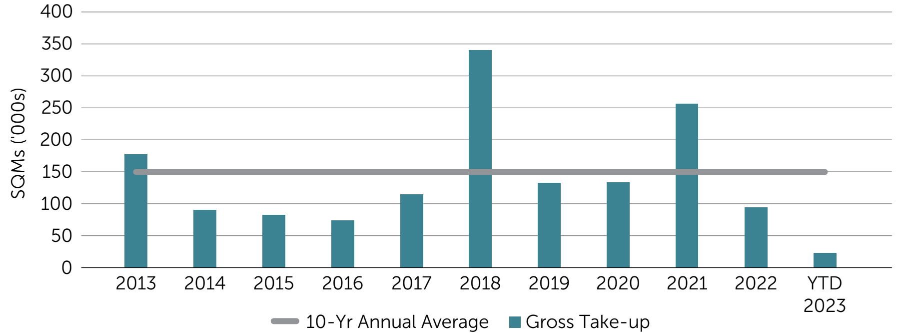
Gross take-up in 1Q23 totalled 23,462 sqm, rebounding from the historical low exhibited in 3Q22 (6,060 sqm). Despite this, occupier activity in 1Q23 was 37% below the 10-year quarterly average (37,500 sqm).

Supply

A total of 14 projects completed in 2022, delivering 139,140 sqm of industrial floorspace, a figure 83% above the 10-year annual average of 75,960 sqm (Figure 14). As is typical in the Adelaide industrial market, completions were demand led, as 90% of new stock delivered was pre-committed to upon practical completion.

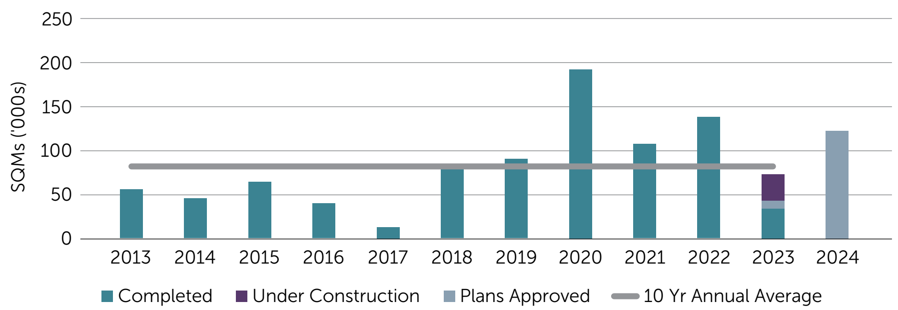
The level of supply in the Adelaide market is expected to increase marginally throughout 2023. A total of 34,160 sqm across 3 projects completed in 1Q23, 77% of which was pre-committed to upon completion. We are currently tracking an additional 38,900 sqm of stock that is either under construction or has approved plans and is due to complete by the end of the year. Interestingly, only 33% of this stock is currently pre-committed, illustrating developers' willingness to build speculatively to capture strong rental growth.

Figure 13:
Adelaide Gross Take-up



Source: JLL Research as at 1Q23.

Figure 14:
Adelaide Industrial Supply Pipeline



Source: JLL Research as at 1Q23.

Prime Rents

Prime rents in the Adelaide market saw substantial growth over the past 12 months, increasing by 7.9%, to AUD 108 psm p.a., while secondary rates increased by 0.4% to AUD 74 psm as at 1Q23 (Figure 15).

Unlike other national markets, the majority of rental growth in Adelaide is derived from 1Q22 (rather than 3Q22), as continuing occupier demand, subdued stock delivery, and diminishing availability of prime space started to feed through to market results.

Prime rental growth tempered in 1Q23, growing by an average of 1.6% across the market to AUD 108 per sqm p.a. Secondary rental growth remained unchanged across all precincts in 1Q23. Moderate rental growth is expected to ensue over 2023 before stabilising thereafter.

Yield Observations

The Adelaide industrial market experienced a moderate degree of yield softening over 2022, ending the calendar year 1 basis point sharper than the previous year, at a market-wide prime average midpoint of 5.49%. The secondary market experienced less decompression, sharpening by a total of 10 bps over 2022 to a market-wide midpoint of 6.90%.

Yields softened a further 25 bps across all precincts and grades in 1Q23. The North West precinct remains the sharpest in the market, at a prime midpoint of 5.13% and secondary midpoint of 6.63%. Notably, prime yields in the Outer South precinct are 200 bps softer (7.13%), while the secondary midpoint is currently 8.50%, making the precinct the softest that JLL tracks in the Australian industrial market.

AUSTRALIA
INDEPENDENT MARKET RESEARCH

Figure 15:
Adelaide Financial Indicators Summary

	Prime Existing Net Rents (AUD psm p.a.)			Capital Value Indicator			Prime Market Midpoint Yield		
	1Q23	Q-o-Q Change	Y-o-Y Change	1Q23	Q-o-Q Change	Y-o-Y Change	1Q23	Q-o-Q Change (bps)	Y-o-Y Change (bps)
Inner South	108	0.82%	8.85%	N/A	N/A	N/A	5.75%	25 bps	50 bps
Inner West-East	146	0.49%	7.94%	2,857	-4.16%	-2.57%	5.38%	25 bps	50 bps
North East	108	2.03%	11.03%	N/A	N/A	N/A	5.50%	25 bps	50 bps
North West	114	3.92%	10.42%	2,726	-1.17%	-3.18%	5.13%	25 bps	63 bps
Outer North	89	2.30%	4.71%	N/A	N/A	N/A	5.50%	19 bps	44 bps
Outer South	71	0.00%	1.79%	N/A	N/A	N/A	7.13%	25 bps	50 bps

Source: JLL Research. As at 1Q23.

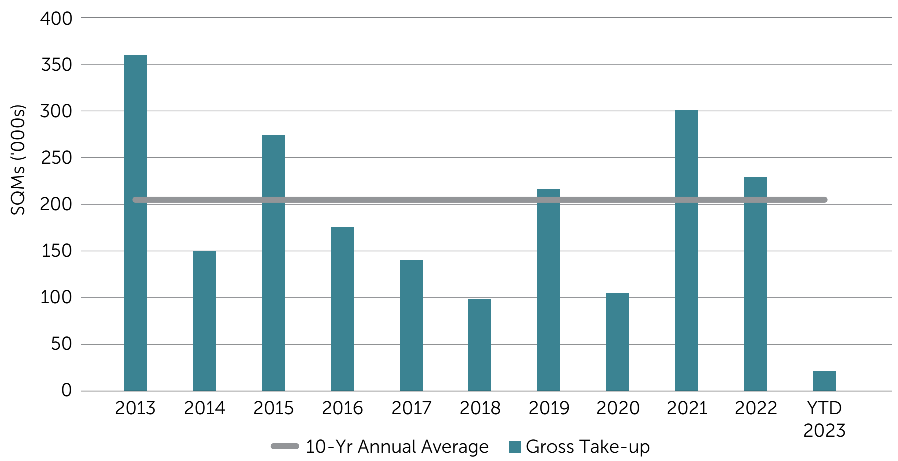
Perth

Demand

Gross take-up in the Perth market over 2022 totalled 228,570 sqm, a 24% y-o-y decline from the near-record high level in 2021, however, a figure 10% above the 10-year annual average (207,260 sqm) (Figure 16).

The Transport, Postal and Warehousing sector led the Perth market in leasing activity over 2022, accounting for 26% of gross take-up, followed closely by Manufacturing (20%) and Wholesale Trade (13%). The manufacturing sector made up the second largest portion of take-up (12.2%), while the professional services sector followed, accounting for 6.0%. Take-up slowed in 1Q23, totalling 21,250 sqm, a 30% quarterly decline and a level 59% below the 10-year quarterly average (51,240 sqm).

Figure 16:
Perth Gross Take-up



Source: JLL Research as at 1Q23.

Supply

Stock delivery was relatively subdued in 2022, with new development in the Perth market generally being heavily demand-led. Over 2022, only 78,760 sqm of new stock was delivered, a level 24% below the 10-year annual average (103,470 sqm) (Figure 17).

There is currently 71,250 sqm (six projects) of new stock that is under construction and expected to complete in 2022. Supply remains heavily demand-led, as these projects are currently 84% pre-committed. No projects completed in 1Q23 in the Perth industrial market.

Prime Rents

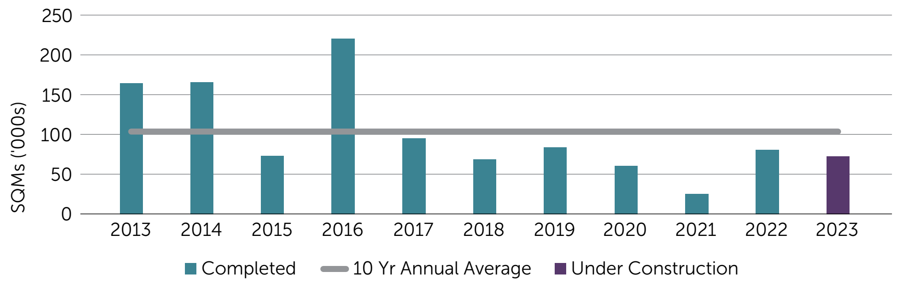
Prime rents recorded strong growth over the past 12 months, with year-on-year growth totalling 27.0% to AUD 133 psm p.a. (supply weighted) (Figure 18). Strong rental growth was driven by a combination of elevated occupier activity, subdued asset delivery and increasing land values.

Supply weighted rental growth in the secondary market exhibited growth of 20.6% over the past 12 months to AUD 114 per sqm p.a., evidencing the lack of available prime stock in the Perth industrial market. Prime rental growth in 1Q23 was strong, averaging 3.9% across the market, with the greatest growth being in the South precinct (4.1% q-o-q). The secondary market outpaced the prime market, growing by an average of 4.8% to AUD 114 per sqm p.a.

Yield Observations
In line with other Australian industrial markets, yields saw significant softening over 2022, as the market-wide prime midpoint yield decompressed by 50 bps over the year to a midpoint of 5.25% (Figure 18). The secondary market followed a similar trend, softening by 37.5 bps to a midpoint of 5.88%. There is no differentiation between precincts in terms of yield spreads or midpoints in the Perth market.

In 1Q23, yields in both the prime and secondary market softened a further 25 bps to a midpoint of 5.50% (prime) and 6.13% (secondary). Moderate softening is expected over the short-to-medium term.

Figure 17:
Perth Industrial Supply Pipeline



Source: JLL Research as at 1Q23.

Figure 18:
Perth Financial Indicators Summary

	Prime Existing Net Rents (AUD psm p.a.)			Capital Value Indicator			Prime Market Midpoint Yield		
	1Q23	Q-o-Q Change	Y-o-Y Change	1Q23	Q-o-Q Change	Y-o-Y Change	1Q23	Q-o-Q Change (bps)	Y-o-Y Change (bps)
East	140	3.7%	38.8%	1,726	-1.13%	7.42%	5.50%	25 bps	88 bps
North	130	4.0%	23.7%	N/A	N/A	N/A	5.50%	25 bps	88 bps
South	128	4.1%	28.6%	N/A	N/A	N/A	5.50%	25 bps	88 bps

Source: JLL Research. As at 1Q23.

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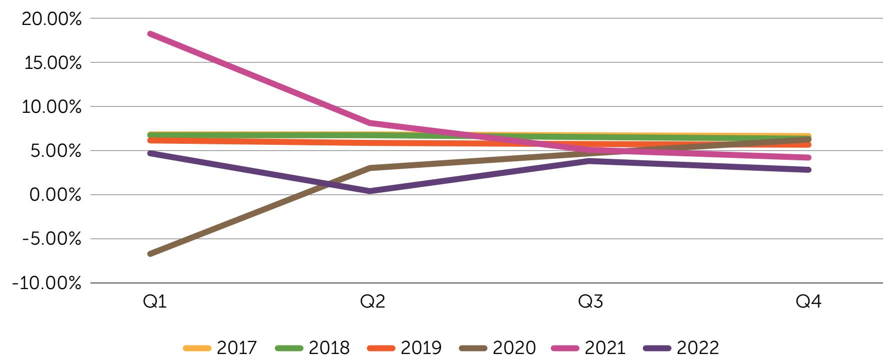
CHINA
INDEPENDENT MARKET RESEARCH
By Cushman & Wakefield

MACRO-ECONOMIC OVERVIEW

GDP Growth
From the first quarter to the fourth quarter of 2022, China's GDP growth rate was 4.8%, 0.4%, 3.9% and 2.9% respectively. In the first quarter of 2022, China's economy continued to recover from the pandemic impact of 2021. In the second quarter, under the impact of the pandemic and strict control, the year-on-year GDP growth rate of GDP fell to 0.4%, mainly on the back of lower consumption expenditure. In the third quarter, consumption increased gradually compared with the second quarter, investment and net exports grew, and year-on-year GDP growth rebounded to 3.9%. In the fourth quarter, due to the first wave of Omicron infections caused by looser Covid-19 control, month-on-month GDP growth was limited, and the growth rate was the same as the previous quarter. The annual GDP in 2022 was RMB 121,020.7 billion, and the growth rate was 3.0% compared to last year, which was lower than the 5.5% economic growth target set by the Two Sessions at the beginning of the year (Figure 1). Demand from consumption and e-commerce was affected by the pandemic, causing the logistics market to face leasing pressure in 2022. The vacancy rate for the Grade-A warehouse market in mainland China rose 1.5 percentage points y-o-y to 15.1% in 2022.

Figure 1:
GDP Growth of China from 2017-2022



Source: National Bureau of Statistics of China

Domestic Demand
In 2022, the per capita disposable income of the national residents increased by 2.9% after deducting price factors, largely in line with GDP growth. In terms of permanent residents, the per capita disposable income of urban residents increased by 1.9% after deducting price factors; while the per capita disposable income of rural residents increased by 4.2% after deducting price factors.

The pandemic restricted both travel and consumption, and significantly impacted the sales of non-essential commodities and aggregate consumption. In 2022, total retail sales of social consumer goods fell by 0.2% y-o-y, and the per capita consumption expenditure of national residents, after deducting price factors, declined by 0.2%. Within that, the per capita consumption expenditure of urban residents, after deducting price factors, decreased by 1.7%.

Export Growth
Total imports and exports of goods in 2022 reached RMB 42,067.8 billion, increasing by 7.7% over the previous year. Exports grew by 10.5% to reach RMB 23,965.4 billion; while imports grew by 4.3% to reach RMB 18,102.4 billion. This resulted in a trade surplus of RMB 5,863 billion, which increased 1533.0 billion y-o-y.

Fixed Assets Investment
In 2022, fixed assets investment increased by 4.9% y-o-y. In terms of sectors, infrastructure investment increased by 9.4%, manufacturing investment increased by 9.1%, and real estate development investment decreased by 10.0%.

Manufacturing Investment
Since the abrupt reversal of China's "Zero-Covid policy" in December 2022, the number of personnel infected increased sharply. As a result, the industrial operation rate declined, and overall industrial production was relatively low. The added value of industries above designated size increased by 1.3% y-o-y and 0.06% month-on-month. From January to December, the total profits of industrial enterprises above designated size nationwide were RMB 8,403.9 billion, which declined 4.0% year-on-year. Among those enterprises, the State-owned enterprises' profit increased 3.0%, corporate enterprises' profit decreased 2.7%, foreign and Hong Kong, Macao and Taiwan investment enterprises' profit decreased 9.5%, and private enterprises' profit decreased 7.2%.

In 2022, the manufacturing Purchasing Manager's Index (PMI) stood at 47, representing a decline of 2.1 percentage points y-o-y. Enterprises remain pessimistic about production and demand prospects in the near future.

LOGISTICS MARKET TRENDS AND PERFORMANCE

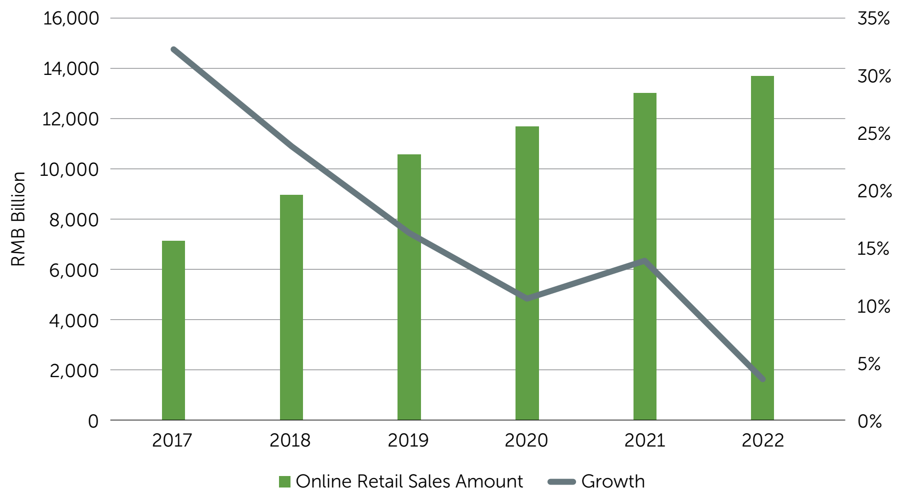
Demand Analysis

E- commerce and 3PL

In 2022, China's online retail sales amounted to RMB 11.96 trillion, increasing by 6.2% compared to 2021 and outpacing the growth rate of retail sales of consumer goods. The Online Retail Sales accounts for 27.2% of the total retail sales. E-commerce continued to be a key driver of consumption during the lockdown period. However, the growth of e-commerce sales slowed significantly in 2022 compared to the rapid growth in previous years (Figure 2). This suggests that consumer confidence has dropped in the third year of the pandemic.

E-commerce and 3PL sectors were the key drivers in the premium logistics warehouse market. In general, China's "Zero-Covid policy" generated a small surge in business for online retail and fresh goods and delivery services in 2022. E-commerce players benefited from broadcast initiatives during the traditional "6·18" and "Double 11" festivals. However, the outbreak of Omicron in the first half of the year led to lower consumer confidence. Total retail sales of consumer goods dropped 0.7% y-o-y in H1, bringing consumer goods sales in H1 to RMB 21.04 trillion due to a slowdown in consumer demand. Total retail sales of consumer goods fell by 0.2% y-o-y from RMB 44.08 trillion in 2021 to RMB 43.97 trillion in 2022. By consumption type, consumer goods sales rose 0.5%, while catering income fell by 6.3%.

Figure 2:
China Online Retail Sales



Source: National Bureau of Statistics of China

Many e-commerce sectors still outsource their logistics business to third-party logistics service providers. According to the State Post Bureau of the PRC, China's express delivery volume reached 110.58 billion, increasing 2.1% y-o-y. China's express delivery market has also ranked as the world's largest by volume for nine consecutive years. Demand was driven by e-commerce, 3PL and fresh food platforms.

Manufacturing Industry

The annual added value of industries above designated size increased by 3.6% in 2022. Overall leasing demand in the logistics market appeared to recover gradually. Demand for high quality warehouse facilities in the manufacturing sector was stronger than in 2021. There were more enquiries from manufacturing tenants, especially in new energy and auto parts companies.

Although demand from the manufacturing industry grew in 2022, e-commerce and 3PL sectors were still the main demand drivers in the Grade-A logistics warehouse market.

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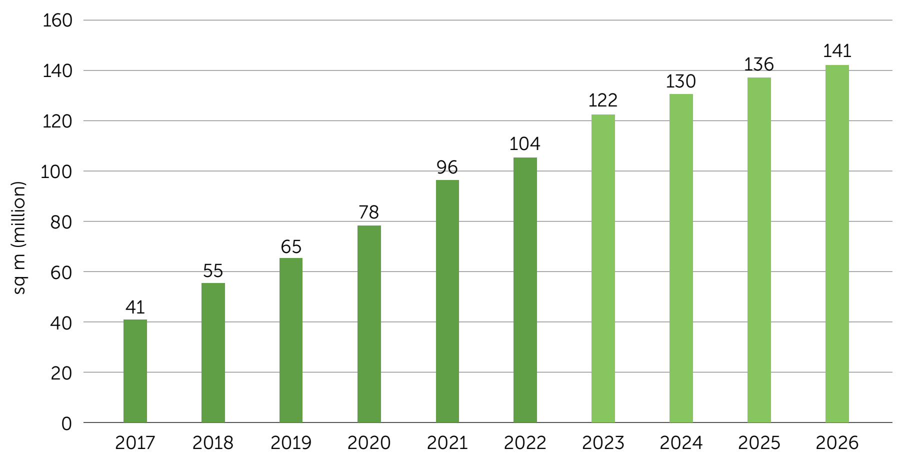
Supply Situation
The total stock of Grade-A warehouse space in mainland China reached 104 million sqm in 2022, with a compound annual growth rate (CAGR) of around 20.8% for the last five years (Figure 3). Approximately 8.77 million sqm of new supply entered the mainland China logistics market in 2022.

Among the five key logistics hubs, most of the Grade A warehouses are in East China, accounting for approximately 37.0% of the total stock in mainland China. This is followed by North China at 27.4%, South China at 14.3%, Southwest China at 12.5% and Central China at 9.0%.

Jiangsu, Guangdong and Shanghai were the top three locations for total stock in 2022, with each market also slated for a large volume of scheduled future supply. Anhui, Zhejiang and Guizhou ranked the top three in terms of the proportion of future supply as existing stock in 2022. With strong supply, some areas in Zhejiang will still see pressure on leasing. As core logistics hubs, the Yangtze River Delta and Greater Bay Area are likely to face less leasing pressure and continue to be targets for investors because of the reduced supply of high-standard warehouses.

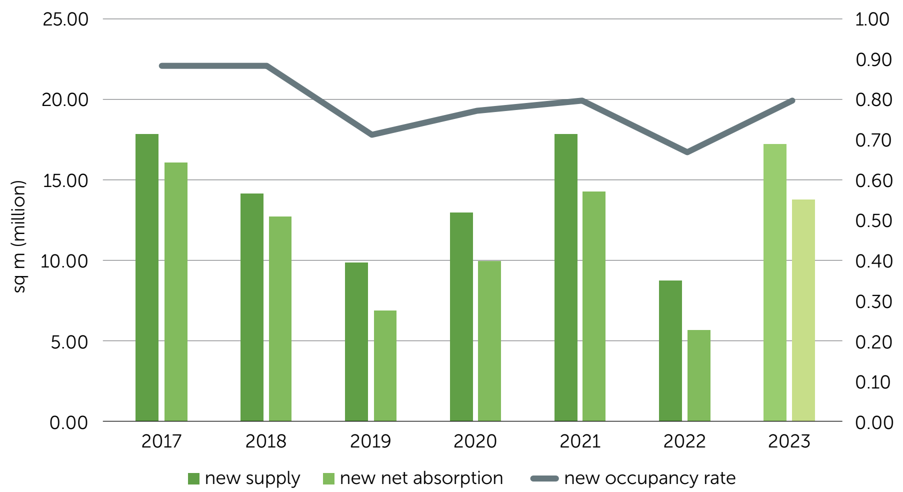
Leasing Performance
The China Grade A warehouse market faced leasing pressure in 2022. As Omicron slowed consumer demand, lower consumer spending was reflected in the reduction of e-commerce short lease tenants. Some express delivery tenants downsized their volume of leases owing to weak new demand. Besides, due to the financial pressure on local governments, high value-added industries were more welcomed by the government than tenants with little tax contributions. In order to increase fiscal revenue, tighter registration and taxation regulations for tenants were enforced in some areas which exerted pressure on leasing. As a result, the number of large-scale lease transactions fell compared with last year.

Figure 3:
Total Stock of Grade A warehouses in Mainland China



Source: C&W China

Figure 4:
New Supply, Net Absorption and Occupancy Rate of Premium Warehouse in Mainland China



Source: C&W China

The Grade A warehouse market recorded 8.77 million new supply and 5.7 million net absorption in 2022 (Figure 4). This caused the overall vacancy rate to rise to 15.1%, up by 1.5 percentage points y-o-y. With high volumes of supply and softer demand, the average asking rents in various cities such as Tianjin, Shenyang and Wuhan dropped. However, due to the tight supply and stable demand in first tier cities[1], the average asking rent still increased. Overall average asking rents in mainland China rose 0.7% y-o-y to RMB 1.1 per sqm per day (Figure 5).

1 First tier cities comprise: Shanghai, Beijing, Shenzhen, Guangzhou

Investment Performance

With tighter investment density and taxation regulations, it has become more difficult to acquire greenfield logistics land. With the drop off in greenfield logistics developments, investors have turned their attention to acquiring portfolio assets.

In terms of cities, assets in Beijing, Shanghai and its surrounding areas, and Shenzhen and its surrounding areas received most attention from investors, reflecting the market's investment preferences and these cities' superior asset liquidity. In response to the tightening of the domestic real estate financial market in recent years, many investors seeking stable investment returns tended to choose markets in first tier and second tier cities as investment destinations.

With the relaxation of pandemic controls, consumer confidence is expected to recover in core cities first. Demand for Grade A warehouses in those cities will see stable growth. As future supply in core cities is expected to increase slowly, satellite cities will see spillover demand from these core cities. Assets with stable returns in satellite cities will therefore become attractive to investors.

KEY LOGISTICS HUBS

North China

Among the selected cities in North China where Mapletree Logistics Trust has a presence, Tianjin remained the largest Grade A warehouses market with about 8.7 million sqm of existing stock. The 3PL and e-commerce sectors were the key drivers in the Tianjin market. With a surge of supply in 2022, the overall vacancy rate in Tianjin rose 3.3 percentage points y-o-y to 16.0% (Figure 6). Multiple new supply and slow absorption afforded tenants greater bargaining power in 2022, resulting in the average asking rent of Tianjin dropping 5.8% y-o-y to RMB 1.01 per sq m per day (Figure 7).

Figure 5:
Rental Level of Grade A Warehouses In Mainland China

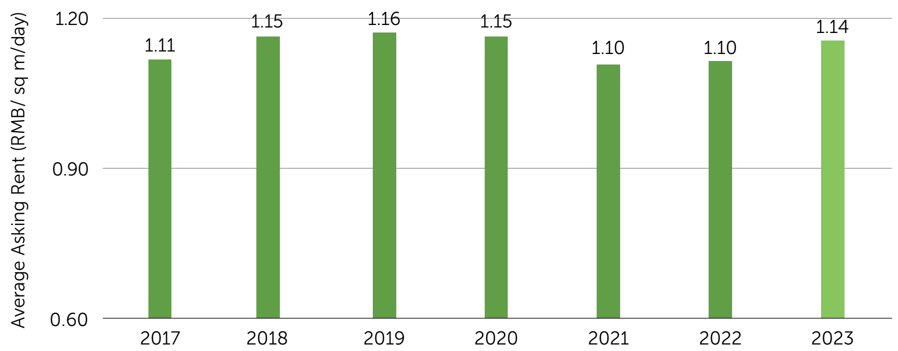
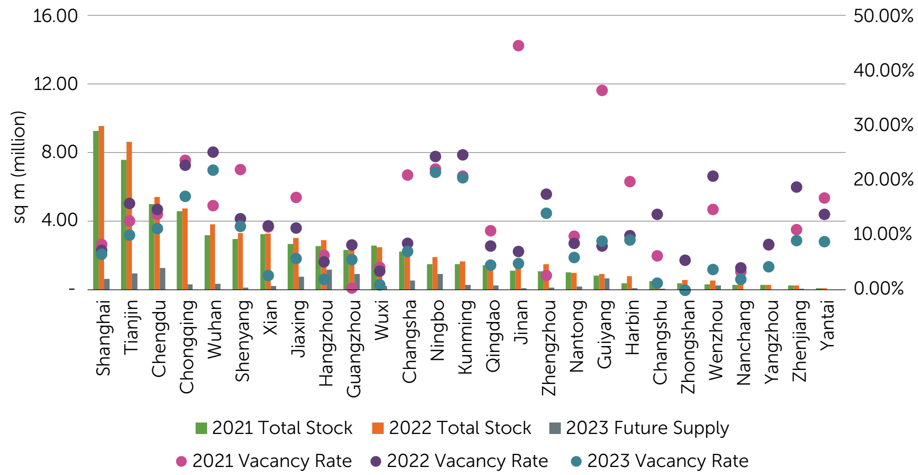


Figure 6:
Historical Record of Vacancy Rate and Future Estimation of Grade A Warehouses in 27 Selected Cities from 2021 to 2023F



Source: C&W China

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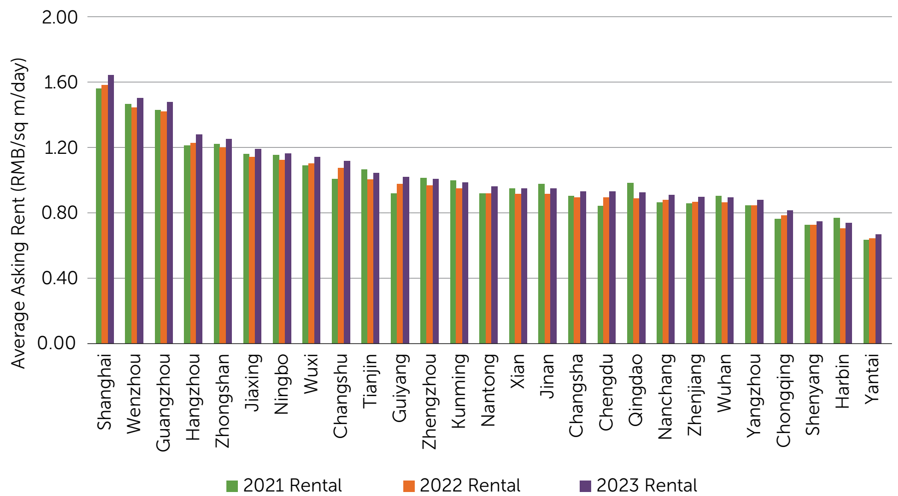
East China
Among the selected cities in East China where Mapletree Logistics Trust has a presence, Shanghai remained the largest Grade A warehouse market with about 9.66 million sqm of existing stock, followed by Jiaxing, Hangzhou and Wuxi with about 3.05 million sqm, 2.93 million sqm and 2.51 million sqm of existing stock, respectively.

East China saw stable performance in 2022. While demand from e-commerce growth slowed in 2022, the e-commerce, express delivery and 3PL sectors remained the key drivers in East China. With tighter registration and taxation regulations for tenants, the leasing cycle for vacant projects has been extended in Shanghai, Wuxi, Hangzhou and Jiaxing. In Shanghai, the overall vacancy rate dropped slightly to 7.3%, with the average asking rent rising 1.3% y-o-y to RMB 1.59 per sq m per day. In Hangzhou and Wuxi, with rising demand from the e-commerce, express delivery and manufacturing sectors, overall vacancy rates dropped to 5.2% and 3.5% respectively, and average asking rents adjusted slightly to RMB 1.24 per sq m per day and RMB 1.11 per sq m per day, respectively.

South China
The South China Grade A warehouse market experienced strong demand in 2022. Demand from auto part tenants increased, while the e-commerce sector remained the main driver of leasing demand. With strong demand, combined with supply tension, the vacancy rates were 8.4% and 5.5% in Guangzhou and Zhongshan respectively in 2022. Some warehouses in Guangzhou trimmed rents, and the overall average asking rental level fell 0.65% to RMB 1.43 per sq m per day. The average asking rent in Zhongshan dropped 1.38% to RMB 1.21 per sq m per day. Guangzhou and Zhongshan both saw healthy leasing activity in 2022.

Figure 7:
Historical Rents and Future Estimation of Grade A Warehouses in 27 Selected Cities from 2021 to 2023F



Source: C&W China

Central China
The Central China Grade A warehouse market experienced leasing pressure in 2022. With multiple new supply entering the market in Wuhan in 2022 and fewer large-scale lease transactions, the vacancy rate rose 9.9 percentage points q-o-q to reach 25.5%. Tenants had more negotiating leverage in 2022 because of new supply and slow absorption. The average asking rent of Wuhan dropped 4.6% y-o-y to RMB 0.87 per sqm per day.

Southwest China
E-commerce and express delivery sectors were the key drivers of absorption in Chengdu, Chongqing, Kunming and Guiyang. Some tenants dropped off due to lease expirations in Chengdu and Chongqing, extending the leasing cycle of vacant projects in 2022. The vacancy rates remained high, at 14.9% and 23.1% in Chengdu and Chongqing respectively.

OUTLOOK

Policy
At the Central Economic Work Conference held in Beijing during December 2022, the government announced it would continue to implement proactive fiscal policies and prudent monetary policies and increase its macro-adjustment efforts in 2023 to boost economic growth. On 23 November 2022, China unveiled 16 financial measures to support its real estate sector. These measures included proposals that banks provide financing support for real estate merger and acquisitions and individual housing loans. On 13 January 2023, Xinhua reported that Chinese authorities have drafted an action plan including 21 tasks to improve the balance sheets and the financing cash flow of good-quality real estate developers. These measures should help developers to meet reasonable financing needs and strengthen confidence in the sector. However, it will take some for the policies to take effect. Overall, the economy is expected to improve in 2023, although the recovery could take time.

In the initial stage following China's reversal of its "Zero-Covid policy", consumption was affected by an increase in Covid cases. The economy will need time to recover. As large-scale infections are expected to ease in the near term, consumption demand in medium to long-term is still expected to rebound and the economy should see stronger momentum.

Leasing Performance

Operational challenges due to a sluggish recovery and demand weaknesses may persist in the near term. Fiscal revenues have decreased due to tighter land supply, a drastic contraction in land sales, and expenditure on epidemic control. In order to increase fiscal revenue, the government may require taxation for tenants in the long term. This may force developers to adjust the direction of leasing to extend the marketing period for vacant areas.

Recently, many local governments have published a series of policies to stabilize the economy, covering the business environment, investment, consumption, support for enterprise operations, and industrial revitalization, expecting to fully release policy dividends as soon as possible and promote economic recovery. For instance, in H2 2022, the Shanghai Municipal Government issued four rounds of electronic coupons to residents with a total investment of RMB 1 billion, boosting consumption by over RMB 3.5 billion. In January 2023, the Shanghai government announced "32 measures to boost confidence, expand demand, stabilize growth and promote development". These measures include tax reliefs, loan discounts, subsidies and consumption coupons. We believe these policies will help revive industries and boost consumer confidence. As a result, demand should increase and the market could gradually experience more absorption in future.

Investment Performance

With the tight supply of logistics land, and tough taxation and investment regulations, it is expected to be more challenging to acquire greenfield land in 2023. With the large supply of commercial land in recent years, the transactions of office and retail properties saw a downward trend in many cities. As a result, investment funds and developers have turned their attention to logistics properties with scarcer supply but more stable returns. Against the backdrop of the Omicron outbreak, and financial constraints, mature logistics projects in core regions are becoming more attractive. Logistics portfolio transactions are also expected to perform actively in 2023.

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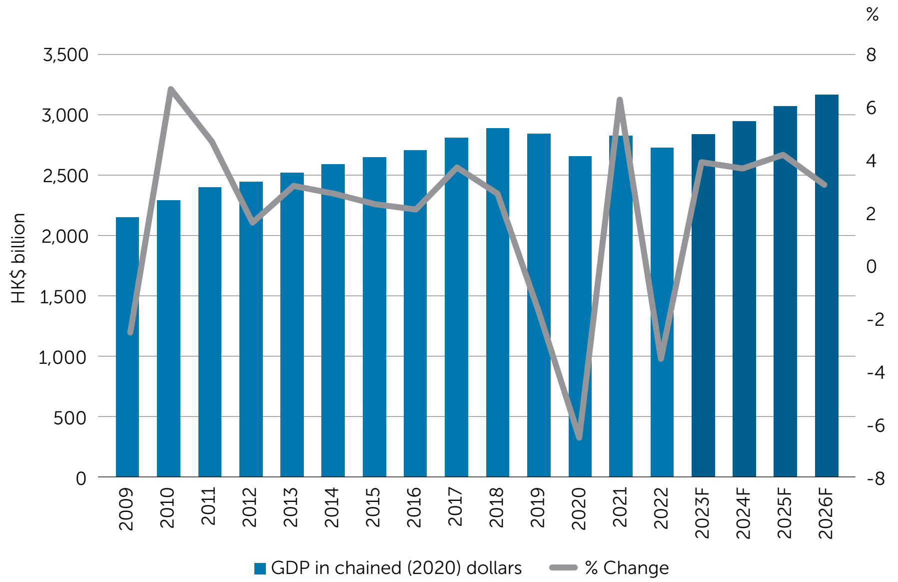
By Savills Research & Consultancy

HONG KONG ECONOMY

Key economic indicators

According to the Census and Statistics Department, Hong Kong's economic downturn continued in the fourth quarter of 2022, with Gross Domestic Product (GDP) contracting by 4.2% year-on-year ("YoY") in real terms, following -3.9%, -1.3% and -4.6% YoY change in the first three quarters. The growth of imports and exports of goods also declined by 7.2% and 8.6% YoY respectively in 2022 and continued to register -18.9% and -25.4% decline YoY respectively in the first two months of 2023. The below-par economic performance was mainly due to prolonged border closure and strict quarantine controls, the fluctuating COVID situation as well as China's weakening economy. It should be noted that as one of the four pillars of the economy, trading and logistics accounted for 24.2% of GDP in terms of basic prices in 2021.

Figure 1:
Hong Kong's real GDP and growth rate, 2009 – 2026F



Source: Census and Statistics Department, Oxford Economics, Savills Research & Consultancy

Economic forecasts

According to the Hong Kong Government, Hong Kong's real GDP growth is expected to grow by 3.5% to 5.5% in 2023, based on the assumptions that both Hong Kong and Mainland China's economies and interactions will return to pre-COVID levels in a steady and progressive manner, US interest rates will stabilise by around mid-2023, and tensions in Ukraine will not escalate (Figure 1).

COVID-19 impact

2022 impact

The outbreak of Omicron at the start of the year softened business and retail sentiment as the number of daily cases surged to over 60,000 in February, but gradually receded to below 10,000 per day towards the end of March. Although the number of daily cases never rebounded to the height of February levels, the recurrence of high COVID cases in various periods of the year meant changing social distancing measures throughout most of 2022, with strict quarantine controls deterring most international tourists and business travelers.

With the gradual relaxation of quarantine control to '0+3' from October onwards, coupled with the hosting of several international events such as the Global Financial Leaders' Investment Summit and the Hong Kong Sevens, Hong Kong has gradually reestablished its international image. The eventual relaxation of all quarantine controls for international travelers as well as most social distancing measures (except wearing masks) towards the end of December virtually put an end to the COVID era.

Nevertheless, the local economy has still been hard hit with normal business only resuming towards the end of 2022: retail sales declined slightly by 0.8% over 2022 with residents spending less on clothing and at department stores. E-commerce continued to expand locally, with online retail sales growing by 20.8% over 2022, reaching HK$34.6 billion. According to Statista, online retail sales are expected to grow by a compound annual growth rate ("CAGR") of 13.4% from 2022 to 2026.

With Hong Kong closing its doors to the rest of the world during most of 2022 coupled with prolonged regional supply chain disruption, the local logistics market was adversely affected, and 2022 saw both air freight and container throughputs decline by 16.8% and 6.3% YoY respectively.

Impact of recent border reopening with the Mainland

The reopening of three land control points from January 8th not only facilitated the movement of travelers but also cargo movement. Local third-party logistics operators, who are much more dependent on local supply chains and logistics operations, bore the brunt of the local logistics market downturn, and many saw their 2021 profits wiped out and were thus forced into contraction mode. The re-establishment of the Hong Kong-China supply chain should allow them to resume normal business, steadying warehouse demand in the near term. Though we still saw container and air cargo throughputs declining by 15.7% and 26.3% respectively in January, the full border reopening from February onwards propelled container throughputs to a much smaller YoY decline of 1.8%, while air cargo throughput actually registered a 6.6% rebound YoY in the same month.

Merchandise trade forecasts

Total exports of Hong Kong are expected to rebound by 4.4% in 2023, and will continue to grow by 4.3% to 8.8% from 2023 to 2026. The average total export growth of 6.0% per annum from 2023 to 2026 is much higher than the average growth rate of 2.7% in real GDP forecast for Hong Kong's four major trading partners; China, the United States, Japan and the European Union over the same period, but lean more towards the 5.9% average GDP growth of China, reflecting its increasing importance to the local trading and logistics sectors (Figure 2).

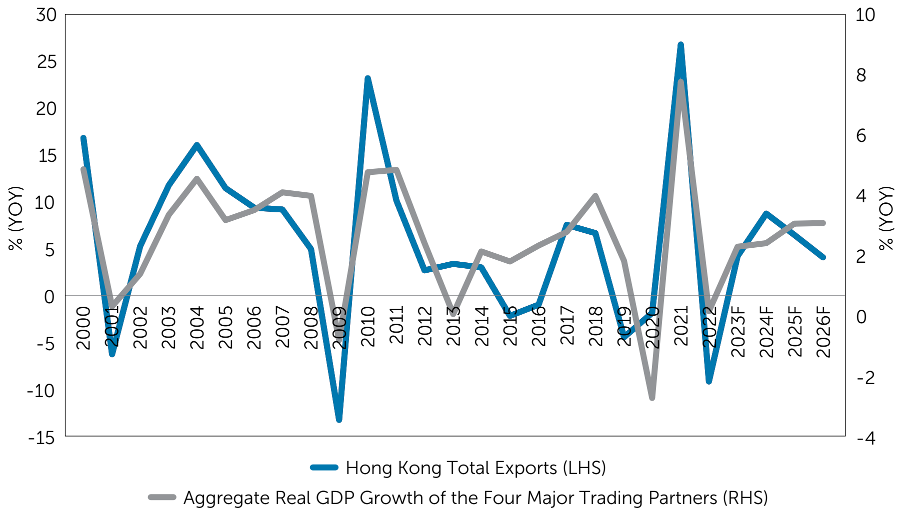
WAREHOUSE MARKET OVERVIEW

Warehouse stock[1] by category and distribution

Hong Kong's warehouse stock has grown at a relatively low CAGR of 0.5% over the past 20 years. This is largely due to severe land constraints, resulting in a limited supply of sites for warehouse use.

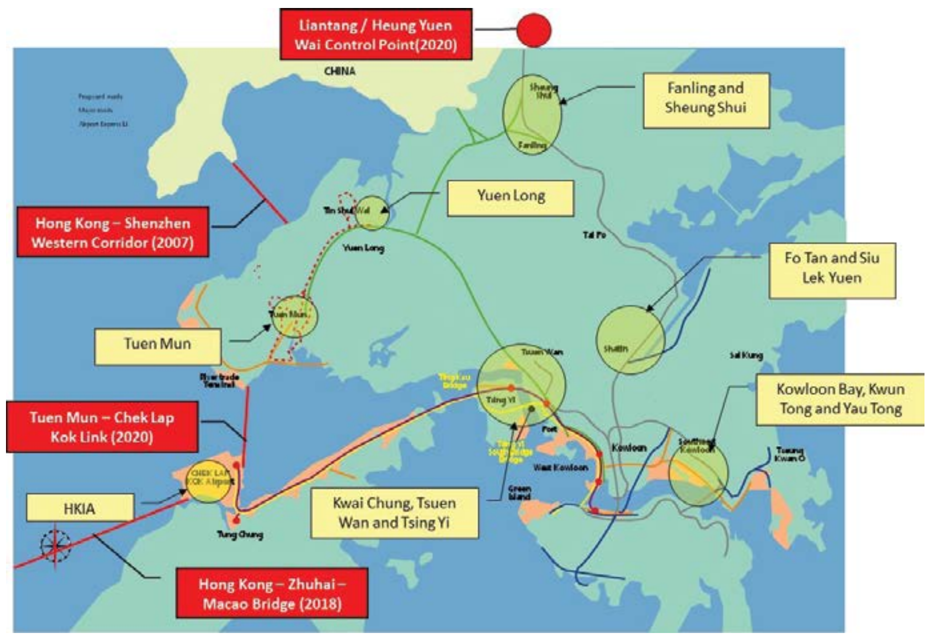
Modern warehouse stock[2] accounted for 52% of total warehouse stock (41.1 million sq ft IFA) at the end of 2022, 2% of which (1.0 million sq ft IFA) is situated at Hong Kong's International Airport (HKIA) at Chek Lap Kok. Modern warehouses have been developed over recent years and are managed by a few experienced developers and investors, including Goodman[3], Hutchison, Mapletree, China Merchants and Kerry, with a modern warehouse market share[4] of 26%, 19%, 8%, 6% and 6% respectively.

Figure 2:
Hong Kong total exports vs market performance of four major trading partners: China, United States, European Union, and Japan, 2000 – 2026F



Source: Census and Statistics Department, IMF, FocusEconomics, Oxford Economics, Savills Research & Consultancy

Figure 3:
Major warehouse locations, Q4/2022



Source: Savills Research & Consultancy

1 All floor areas in this section are measured in Internal Floor Area (IFA) as defined by the Rating and Valuation Department, which is different from gross floor area (GFA) used in other sections of the report and is defined as the area of all enclosed space of a unit measured to the internal face of enclosing external and/or party walls, unless otherwise stated.
2 A modern warehouse is defined as space with a floor to ceiling height of at least 15 feet, a floor loading of at least 250 lbs per sq ft, a floor plate of at least 50,000 sq ft and direct vehicular access to a majority of its floors.
3 Inclusive of Goodman Westlink with an approved GFA of 996,185 sq ft, occupation permit issued in August 2022
4 In terms of the Buildings Department's approved GFA

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There are 16 modern warehouses in Hong Kong with a total gross floor area of around 28.4 million sq ft gross, with the largest cluster in the Kwai Tsing / Tsuen Wan area close to both the cargo terminals and HKIA (Figure 3). The stock distribution of warehouses overall shows a clear shift of warehouse facilities towards the northwest New Territories over the past two decades. Compared with 1994, Hong Kong Island and Kwun Tong warehouse stock declined by 27% to 1.8 and 2.7 million sq ft IFA in 2021 respectively. However, stock in Tuen Mun / Yuen Long rose sharply from 1.4 million sq ft IFA in 1994 to 2.9 million sq ft IFA in 2021, a 104% increment (Figure 4). This shift was driven by the development of new infrastructure such as Container Terminal 9, HKIA, the River Trade Terminal, the Hong Kong-Shenzhen Western Corridor and the Hong Kong-Zhuhai-Macao Bridge, being completed over the period.

Warehouse supply, take-up and vacancy

Looking at the overall warehouse market, new supply of warehouse space has rebounded over the past decade. While average annual supply over the period from 2006 to 2010 was 69,000 sq ft IFA, from 2011 to 2020, average annual supply increased to 469,000 sq ft IFA. 2019 saw no new supply completed. From 2011 to 2019, eight warehouse projects were completed in Kwai Tsing, Yuen Long and Fanling, five of which (China Merchants Logistics Centre, China Resources International Logistics Centre, Goodman Interlink, SF Centre and Mapletree Logistics Hub Tsing Yi in Kwai Tsing) are built to modern warehouse standards. There was no new warehouse supply in either 2020 or 2021 (Figure 5).

The confluence of several adverse elements in recent years, emanating from both external and domestic sources, negatively impacted logistics demand and vacancy increased from 3.8% in 2011 to 5.4% in 2020. In particular, US / China trade tensions, coupled with local social unrest, derailed logistics demand in 2019, leading to negative take-up of 622,000 sq ft IFA in that year. Nonetheless, the gradual containment of COVID and the subsequent re-alignment of supply chains, as well as the increasing prominence of e-commerce revived the logistics sector in 2020, with 351,000 sq ft IFA of warehouse space taken up over the year. While warehouse demand rebounded in 2021 due to the reviving logistics sector, the vacating of Kowloon Godown in Kowloon Bay (around 750,000 sq ft net) due to an approval for change to residential use brought vacancy up from 5.4% to 7.2%, leading to negative take-up of 740,000 sq ft net in the year.

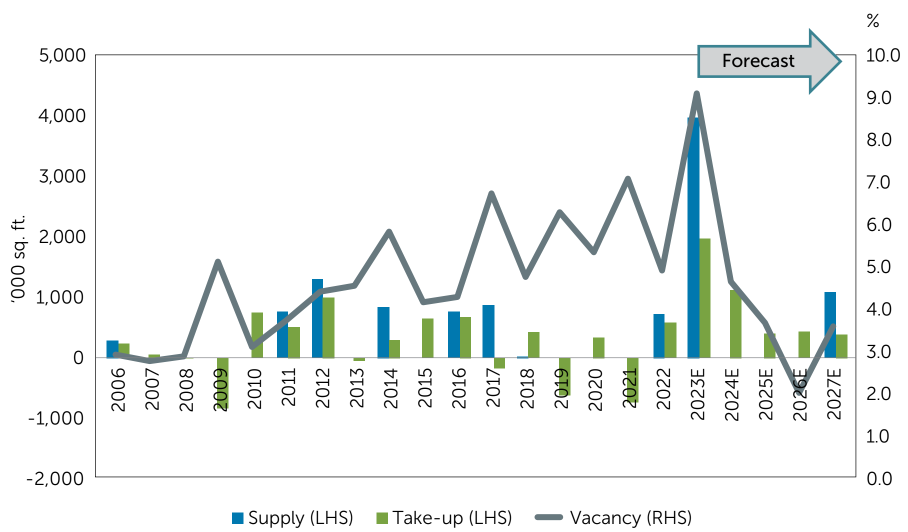
Goodman Westlink was completed in August 2022 with an estimated IFA of 747,157 sq ft.

Figure 4:
Hong Kong warehouse market key metrics by district

District	Total stock at the end of 2021 (million sq ft IFA)	Q1/2023 average rent (HK$ per sq ft effective)
Hong Kong Island	1.8	$10.3
Kwun Tong	2.7	$12.1
Sham Shui Po	1.5	$9.4
Kwai Tsing / Tsuen Wan	23.3	$12.7
Tuen Mun / Yuen Long	2.9	$10.0
North	1.4	$10.7
Shatin	4.8	$11.8
Others	2.0	N/A
Total	**40.4**	**$12.0**

Source: Rating and Valuation Department, Savills Research & Consultancy

Figure 5:
Warehouse storage supply, take-up and vacancy rates, 2006 – 2027E



Source : Rating and Valuation Department, Savills Research & Consultancy

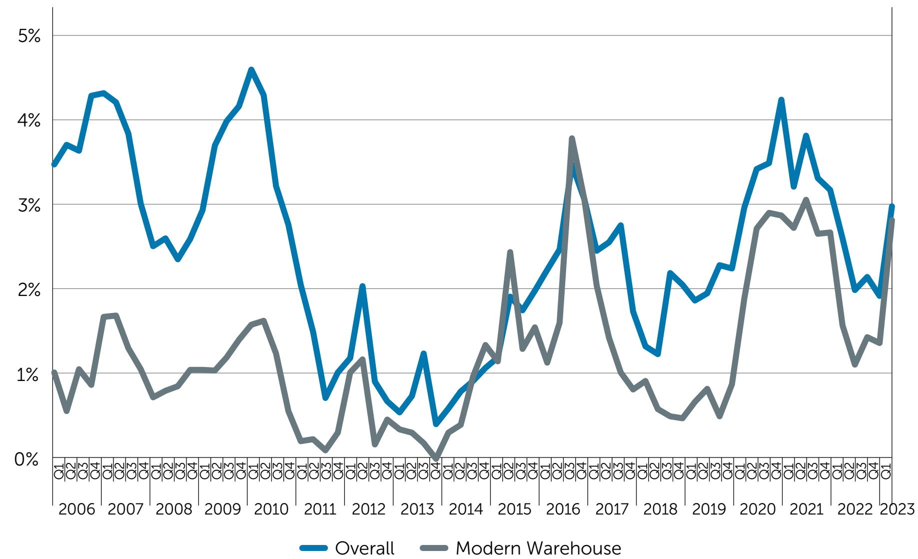
Following the COVID outbreak at the start of 2020, global supply chains were disrupted, presenting increasing challenges to the movement of cargo, thereby affecting the freight forwarding and cross-border distribution functions of logistics operators. This pushed overall warehouse vacancy up to 4.1% in Q4/2020, the highest level since the Global Financial Crisis (GFC) in 2009. Against this backdrop, modern warehouse vacancy rose to 2.8% in Q4/2020 from 0.9% in Q4/2019 (Figure 6).

Traditional logistics demand from bulk import / export segments, as well as the retail and e-commerce sectors, rebounded strongly in 2021 alongside global economic recovery, leading to overall warehouse vacancy declining to 1.9% in Q2/2022. The pick-up in logistics demand from air cargo transport has been related to regional transshipment of high-value goods, cross border and local e-commerce logistics, as well as temperature-controlled products, which are best served by modern warehouses with higher specifications which offer better operational efficiencies for time-critical cargoes. These factors combined to cause vacancies in modern warehouses to decline to 1.1% in Q2/2022, a recent low since the COVID outbreak in early 2020.

In the second half of 2022, however, ongoing external uncertainties are still causing global disruption to supply chains, and in turn adversely impacting the local logistics sector. With Hong Kong closing its doors to the rest of the world during most of 2022 with strict quarantine controls, coupled with prolonged regional supply chain disruption, the first eleven months saw both local air freight and container throughputs decline by 15.4% and 6.9% respectively. Overall warehouse vacancy maintained at 1.9% while modern warehouse vacancy rebounded slightly to 1.3% towards the end of 2022 as a result.

With the addition of Goodman Westlink, overall and modern warehouse vacancy rates increased to 2.9% and 2.8% respectively in Q1/2023, which were still at healthy levels.

Figure 6:
Savills overall and modern warehouse vacancy rates, Q1/2006 – Q1/2023



Source : Savills Research and Consultancy

Warehouse rental trends

The trading and retail sales segments were impacted by social unrest and the trade war along with the pandemic resulting in weak performance, leading to declining logistics demand and dampening modern warehouse rental growth in both 2019 and 2020.

With firmer business prospects in 2021, many logistics operators opted to renew leases in Q3/2021, averaging six to nine months ahead of expiry, to avoid any business disruption. Modern warehouses in both Kwai Tsing and Tsuen Wan, as well as general warehouses in Tuen Mun, recorded a number of renewal cases of long-term tenants.

Other logistics operators saw their businesses grow in the buoyant market conditions in 2021 and decided to expand and relocate. Both 3PLs (such as Kerry Logistics and Hi-speed Logistics) and end users (such as Coca-Cola and Park'N Shop) made moves to expand and consolidate into new warehouse locations to suit their business expansion needs.

In the first half of 2022, external uncertainties, such as Russia's invasion of Ukraine, as well as the re-emergence of COVID cases in China, disrupted both global and regional supply chains. Nevertheless, the immediate impact of the former on the local logistics sector has so far been minimal. The Mainland outbreak, however, had a much more profound impact on the supply of daily necessities, and the affected areas were mostly land transport to supermarkets and wet markets. Against this backdrop, however, logistics demand remained strong with the COVID outbreak gradually contained and the retail sector regaining some momentum alongside strong performance from e-commerce. We therefore saw overall and modern warehouse rents rising by 2.2% and 3.2% respectively in the first half of 2022.

Logistics sentiment weakened from Q3/2022 onwards, with the warehouse leasing market beginning to feel the heat, and many operators opting for renewal rather than relocation, and very few logistics players, except e-commerce operators, in expansion mode. International 3PLs, whose businesses were gradually recovering alongside

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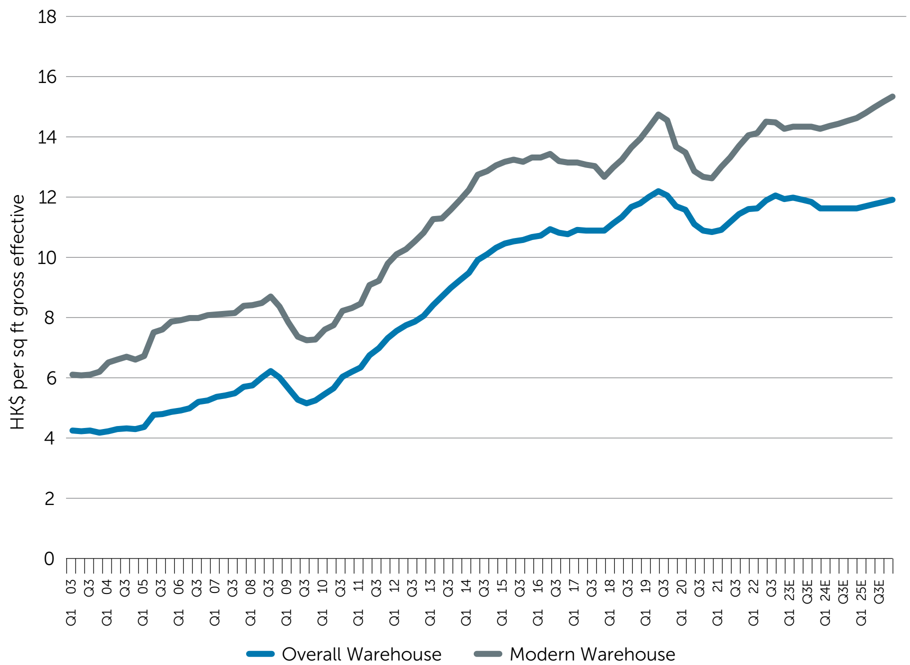
global supply chains, had the ability to re-route their throughputs to other regional airports / ports, and were thus least affected by the situation in Hong Kong. Local 3PLs who are much more dependent on local supply chains and logistics operations, bore the brunt of the local market downturn, and many saw their 2021 profits wiped out and were thus forced into contraction mode.

Gradual resumption of air freight, as well as cross-border land transport, helped rebuild a lot of 3PLs freight solutions for clients, with operators seeing more light in their business growth in the near term. As such, modern warehouse rents increased by 0.6% to reach HK$14.4 per sq ft gross in Q1/2023, 1.6% higher than Q1/2022 levels.

General warehouses, which are mainly owned by local individual landlords / industrialists, were slower in terms of marking their asking rents to market. At the end of Q1/2023, average overall warehouse rents stood at HK$12.0 per sq ft gross, 0.5% and 3.0% higher than Q4/2022 and Q1/2022 levels respectively (Figure 7).

Figure 7:
Savills overall warehouse and modern warehouse average rents, Q1/2003 – Q4/2025F



Warehouse market forecast

Upcoming warehouse supply between 2023 and 2027 will amount to 6.88 million sq ft gross, an addition of 12.5% to existing warehouse stock. This supply comprises CaiNiao Smart Gateway on the Airport Island, and one logistics site tendered by the Government in Kwai Chung to ESR (Figure 8).

Figure 8:
Warehouse supply, 2022 – 2027

Project	District	Developer	Total GFA (sq ft)	Expected completion
Cingleot Premium Logistics Centre	Airport Island	Cainiao Network	5,395,286[1]	2023
KCTL 531	Kwai Chung	Government Tender	1,485,418	2027

Source: Savills Research & Consultancy, Buildings Department

1 According to Consent to Commence Work in the Monthly Digest April 2022 published by the Buildings Department. According to CaiNiao marketing materials, the lettable floor area of the building is around 4.1 million sq ft, the discrepancy is mainly due to its extraordinary floor-to-floor height (8.8m – 11.3m), of which according to Buildings Regulations, some of the GFA has to be double counted.

Looking ahead, the border reopening schedule and the speed of supply chain recovery will dictate the pace of the logistics demand revival, while the supply overhang could weigh on any market rebound in 2023. The expected rebound in retail sales (in the order of 5% to 10%), as well as sustained growth in e-commerce (13%) should support solid logistics demand in 2023. While the newly completed Goodman Westlink was gradually taken up by "in-house" tenants with most spaces either committed or under advanced negotiations, the 5.36 million sq ft CaiNiao Smart Gateway, to be completed towards the middle of 2023, will serve as a major supply overhang in 2023 and 2024. Most warehouse landlords facing tenant expiries in these two years will likely be flexible on rental terms to maintain occupancy, given that new logistics demand is hard to come by.

We therefore expect warehouse rents to remain broadly stable in 2023, with the market likely to resume growth from 2024 onwards when new warehouse completions are gradually taken up. When the logistics sector resumes normal business from 2025 onwards and most new supply in the market is absorbed, warehouse rents are likely to rebound quicker from that year onwards.

Areas benefiting from newly completed infrastructure, such as Liantang / Heung Yuen Wai Border Control Point in the North-eastern New Territories, as well as Tuen Mun-Chek Lap Kok Link linking up Tuen Mun South and Hong Kong International Airport, should also see improving demand prospects.

Another recent trend boosting the demand for short-term warehouses is the increasing demand for cold storage. With COVID resulting in social distancing measures, there has been an increasing need for chilled meat and frozen foods from households. In 2021, there was greater relocation and expansion demand from cold store operators, such as 100 Storage Cold-Chain Logistics Services relocating and leasing two units on 6/F (around 120,000 sq ft) of Hutchison Logistics Centre in Kwai Chung. We also saw others renewing their leases to avoid business disruption, such as Beidahuang Logistics Limited in their cold store in Seapower Industrial Centre in Kwun Tong. With a typical cold store demanding very high building specifications (4-5m clear ceiling height and 17.5 kPa floor loading), warehouses possessing such specifications should be in demand over the next two to three years.

Figure 9:
Modern warehouse rental forecast, 2023 – 2025

	Overall warehouse	Modern warehouse
2023	0% to -5%	0%
2024	0%	0% to +5%
2025	0% to +5%	+5%

Source: Savills Research & Consultancy

Modern warehouses, which continued to record a 20% premium over overall rents in Q1/2023, have a brighter outlook in light of growth from cross-border e-commerce and cold chain logistics, as well as the structural shift towards air freight and high value-added goods. As operational efficiencies and modern facilities become increasingly crucial in the logistics sector, rents for modern warehouses are expected to post a relatively stronger performance compared to the overall market over the next four years. (Figure 9).

In the medium- to long-term, the key demand drivers of modern warehouses include value-added transshipment, fast-moving local distribution, emerging e-commerce distribution (both local and regional) as well as cold storage needs. Most of these demand groups require large floor plates, high ceiling heights and extra floor loadings, which can only be found in modern warehouses located in strategic locations either close to the airport, container terminals, the border, or a combination of the above. Increasingly automated warehousing solutions and robotic systems are also preferred by these operators in handling fast-moving goods in an efficient and cost-effective manner. As these operators are often handling higher value goods in large volumes, they are willing to pay premium rents to acquire warehouses which suit their needs, thereby reaffirming the rental premium of modern warehouses over their general counterparts.

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INDIA
INDEPENDENT MARKET RESEARCH

By Jones Lang LaSalle IP

MACRO-ECONOMIC OVERVIEW

The Indian economy has successfully rebounded from the impact of the pandemic, surpassing the recovery of many other nations. It achieved a full recovery in the fiscal year FY22 and is now poised to return to its pre-pandemic growth trajectory in FY23. Overall, the growth trajectory remains robust, with an estimated growth rate of 6.9% for FY22-23. This growth has been supported by strong investment activity, driven by the government's capital expenditure (capex) initiatives, as well as buoyant private consumption.

While the growth in goods exports is expected to moderate in FY23, there are positive signs for the future, including the implementation of production-linked incentive schemes and efforts to enhance the business environment. These measures, such as streamlined labor regulations, are aimed at improving the performance of sectors like electronics and manufacturing.

The agricultural sector in India has experienced significant growth, with an average annual growth rate of 4.6% over the past six years. This growth can be attributed to various government reforms aimed at enhancing agricultural productivity, such as the introduction of Soil Health Cards and the establishment of the Micro Irrigation Fund.

Additionally, the service sector in India has emerged as the fastest-growing sector, with the gross value added (GVA) in the service sector estimated to grow at 9.1% in FY23.

In terms of demand, India's total exports and imports have exceeded pre-pandemic levels. The pent-up demand, which was not fulfilled during the major waves of the COVID-19 pandemic, has played a significant role in driving this demand. Expansionary monetary policies adopted by developed economies have also contributed to the increased external demand for India's exports. The combined value of goods and services exports has increased by 16% compared to the previous year. Foreign direct investment (FDI) in India has remained steady, and there is a noticeable rise in investor interest in including India in their supply chain diversification strategies. FY22 witnessed the highest-ever annual gross FDI inflow of USD 84.8 billion.

Initiatives such as PM Gati Shakti and the National Logistics Policy are expected to further improve India's cost and export competitiveness in the coming years.

Inflation in India, as measured by the Consumer Price Index (CPI), has eased to 4.7% in 2022-23 from 5.2% in the previous year. Wholesale Price Inflation (WPI) has also shown a downward trend, declining from its peak of 16.6% in May 2022 to 5% in December 2022. These trends indicate a positive outlook for price stability in the economy.

LOGISTICS MARKET SNAPSHOT

The resilience of the industrial and warehousing market has been tested as the COVID-19 pandemic affected India’s economic growth trajectory. After demonstrating resilience in 2020, the warehousing market has shown recovery in 2021 with demand reaching pre-COVID levels. Indian warehousing is currently going through a transformation phase in terms of quality storage spaces (primarily Grade A space), demand for larger boxes and absorption and positioning of warehouse location.

STOCK AND SUPPLY SCENARIO

During the first quarter of 2023, the Indian warehousing sector experienced significant growth, with a 13% year-on-year increase in the combined stock of Grade A and B warehousing space across the top eight cities. This expansion resulted in a total warehousing space of 335 Mn Sq.ft. by the end of Q1 2023, compared to 297 Mn Sq.ft. in the previous year.

Notably, Grade A warehousing space in India accounted for 165 Mn Sq.ft., showcasing a robust compound annual growth rate of 28.6% over a span of five years. This growth can be attributed to the growing investments made by institutional developers, who have recognized the rising demand for high-quality Grade A spaces. These developers are primarily targeting consumer-driven sectors such as third-party logistics (3PL), retail, fast-moving consumer goods (FMCG), as well as certain manufacturing sectors like automotive and ancillaries, engineering, electronics, and white goods.

Among the eight major cities, Delhi NCR, Mumbai, and Bengaluru are the primary contributors, collectively accounting for more than half of the warehousing stock in the country. These cities have emerged as significant hubs for warehousing activities, attracting both domestic and international investors.

In the first quarter of 2023 alone, the Indian warehousing market witnessed a new supply of 6 Mn Sq.ft.. Looking ahead, an additional 36.3 Mn Sq.ft. of supply is expected to be added by the end of 2023. This supply is predominantly being provided by renowned institutional developers and investors such as Indospace, ESR, Blackstone, Ascendas, LOGOS, along with regional developers like NDR, Global Group, Mussadilal, and others. As a result of this influx, the total warehousing stock is projected to reach 372 Mn Sq.ft. by 2023 (Figure 1). The optimistic outlook is further supported by the anticipated rapid absorption of the new supply due to the existing strong demand in the market.

WAREHOUSE DEMAND DYNAMICS

The warehousing sector in India has demonstrated consistent growth in 2022 as well as in Q1 2023. During Q1 2023, the net demand for warehousing space stood at 6.2 Mn Sq.ft., highlighting the continued momentum in the sector (Figure 2). Notably, more than 75% of this net demand was observed in Grade A spaces, indicating a noticeable shift in occupiers' preferences towards high-quality facilities. This surge in demand for Grade A spaces has resulted in a reduction in the Grade A vacancy rate from 8.4% in Q1 2022 to 6.2% in Q1 2023, indicating a favorable environment for developers and investors in the warehousing industry.

In Q1 2023, the warehousing sector in India witnessed an increased demand from 3PL companies, making them the largest occupiers of warehousing space, contributing over 37% of the total absorption during this period. This growth can be attributed to several factors, including the improving consumer market, increase in outsourcing of logistic operations by manufacturing companies to 3PL players and rising prominence of e-commerce.

The future outlook for warehousing demand in India appears promising, with net absorption projected to surpass the 50 Mn Sq.ft. mark by 2026. The sector is expected to experience strong net absorption in the coming years, coupled with a gradual reduction in overall vacancy rates.

Figure 1:
Stock Projection for Select Eight Cities

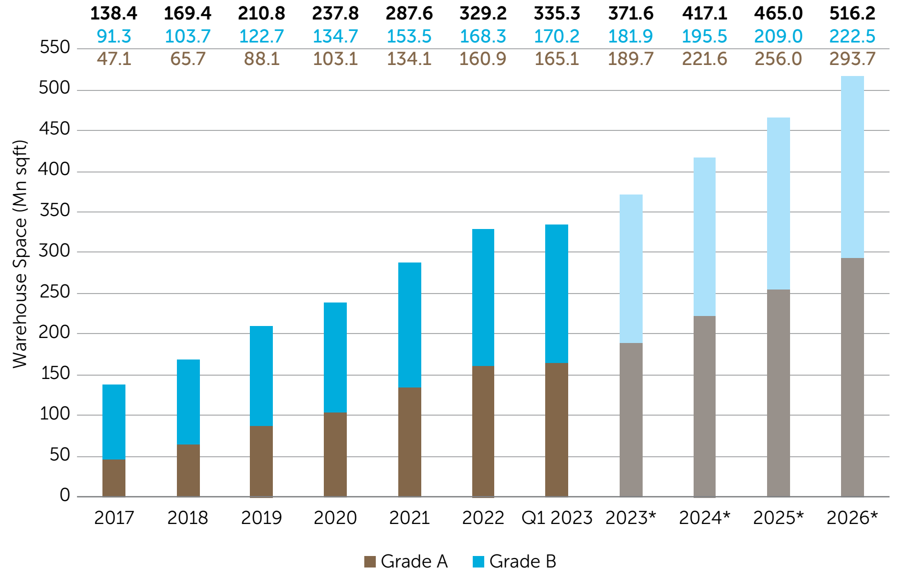
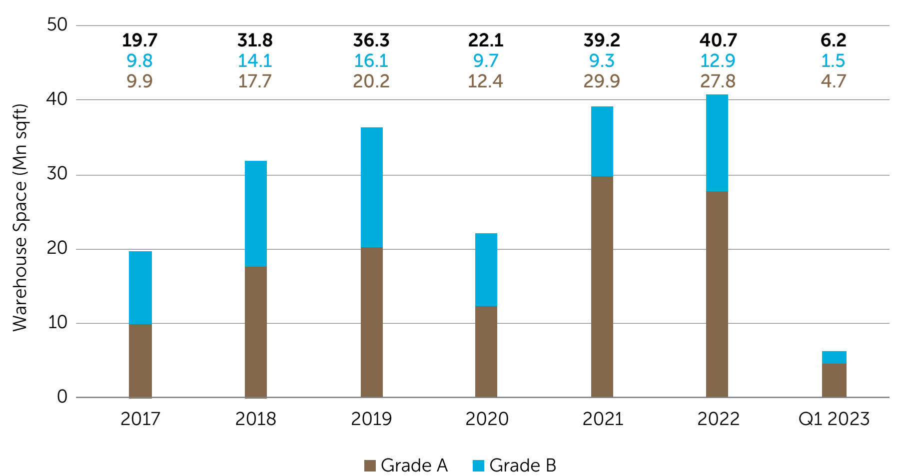


Figure 2:
India Net Absorption



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KEY WAREHOUSING MARKETS

In Q1 2023, Delhi NCR continued to maintain its position as the leading warehouse market among the top eight major cities in India. It commanded the highest share of Grade A warehousing space across the country, with a total stock of over 81 Mn Sq.ft.. Notably, the Grade A segment accounted for 30.5 Mn Sq.ft. of this stock. Following Delhi NCR, cities such as Pune, Chennai, and Bengaluru also boasted significant Grade A warehousing stock, with 29 Mn Sq.ft., 27 Mn Sq.ft., and 25 Mn Sq.ft. respectively.

Despite witnessing substantial new supply additions in these cities during the year, the overall vacancy rates have remained at a healthy level, hovering around 15% as of Q1 2023 (Figure 3). This indicates a balanced equilibrium between supply and demand in the market.

Furthermore, rental rates in these cities exhibited positive growth during Q1 2023. On average, Grade A spaces commanded a rental rate of approximately INR 23 per square foot per month. Pune witnessed even higher average Grade A rents, reaching INR 28 per square foot per month, while Ahmedabad achieved an average of INR 18.8 per square foot per month (Figure 4). With the robust demand for logistics services driving the market, most cities are expected to experience a consistent increase in rental rates in the foreseeable future.

Pune has witnessed significant growth in its warehousing market since 2022. This growth can be attributed to two key drivers: manufacturing and consumption. Pune has developed a thriving manufacturing ecosystem in regions such as Chakan, Talegaon, and Nagar Road, which has contributed to the demand for warehousing space.

Figure 3:
New Supply, Net Absorption and Vacancy in Eight Cities of India, Q1 2023

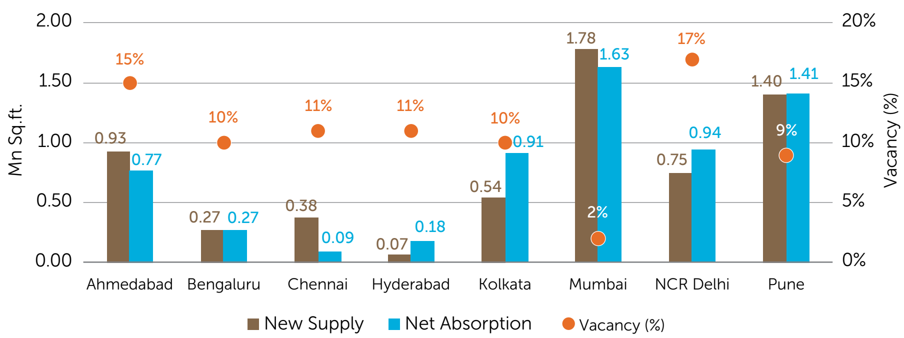
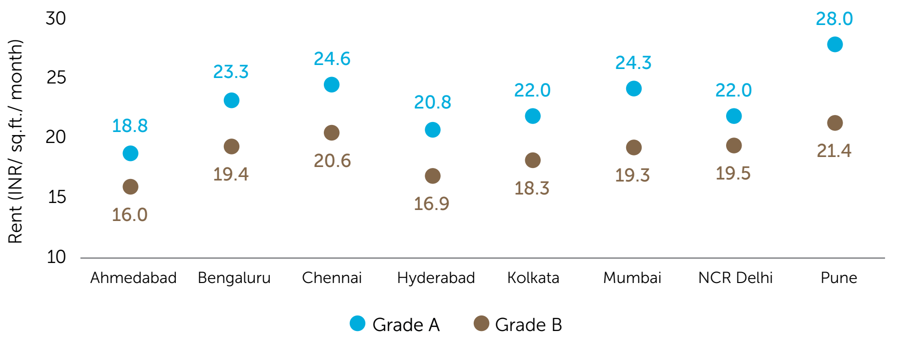


Figure 4:
Average Rents in Eight Cities of India, Q1 2023



However, due to high land prices, the city has the highest warehousing rents among all markets. Despite the high rentals in sub-markets like Chakan-Talegaon and Nagar Road, there is a growing demand from the 3PL, retail, and manufacturing sectors. This can be attributed to the availability of high-quality Grade A spaces and strong connectivity in these areas. In Q1 2023, Pune witnessed supply and absorption of 1.40 Mn Sq.ft. and 1.41 Mn Sq.ft. respectively. It is interesting to note that all of the demand and supply observed in this period were in Grade A spaces, specifically in the Chakan-Talegaon and Nagar Road sub-markets.

Similarly, Bengaluru's warehousing market has been experiencing steady growth since 2022. The region witnessed a net absorption of 5.7 Mn Sq.ft. in 2022 and an additional 0.27 Mn Sq.ft. in Q1 2023. This growth is driven by strong occupier interest, particularly in the 3PL and retail sectors, because of increasing consumption-led demand in the region. Key warehouse clusters in Bengaluru, such as Hoskote and Hosur Road, have been the focal points for these sectors. In Q1 2023, Bengaluru witnessed both supply and absorption of 0.27 Mn Sq.ft., further indicating the growing significance of the city's warehousing market.

CONSOLIDATION TO LARGER AND MODERN WAREHOUSES

This transformation towards sophisticated state-of-the-art warehousing has resulted in the increase in average size of Grade A warehouse by 2x in India. Interestingly, the warehouse size has not just increased in terms of area, the average height[1] has also increased from 9 m in 2016 to 12 m in 1Q 2023 which has increased the average volume of Grade A warehouse by 3x. Moreover, warehouses have started automating their processes. These automated warehouses extensively use conveyors, sortation equipment, automated storage & retrieval system (AS/RS), and other material handling. Larger warehouses provide space and opportunity to improve operations via automation, which results in quicker turn-around time.

India witnessed more than 15 transactions of warehouses with box size more than half a Mn Sq.ft. going up to 1 Mn Sq.ft. in the recent years. The demand for larger warehouses is majorly driven by sectors such as 3PL/ Logistics, e-commerce, retail and other manufacturing sectors such as Engineering and Electronics.

TRANSFORMATION OF WAREHOUSING AT THE ADVENT OF OMNI CHANNEL RETAILING

Omni-channel retailing is expected to help optimize inventory holding costs, operating costs and real estate costs, while increasing brand prominence and consumer base across the country.

Customers expect new alternatives: buying online and pickup in-store (BOPIS) or shipping from the store. Effectively, this transforms a traditional retail store into a fulfilment center. This demands optimization of store inventory and flexible fulfilment options that also meet profitability targets. Some of the significant omnichannel retail players, including Decathlon, Pepperfry, IKEA, Reliance, etc., are occupying warehouses of size varying from 2 lakhs sq. ft. to 1 million sq. ft. in different Tier 1 cities (NCR Delhi, Bengaluru, Pune, Chennai, Kolkata, etc.) in the last two years.

QUICK COMMERCE FUELING URBAN LOGISTICS GROWTH

Urban Logistics is likely to gain importance with growth for in-city warehouse space for faster deliveries to end users with growth in 3PL and e-commerce segment. E-commerce penetrates deep inside the cities in the busiest commercial, retail, and residential areas. Constrained supply also drives re-positioning/usage change of existing assets like malls, high-street retail, marriage halls, auditoriums, showrooms, and workshops.

Exorbitant last mile costs, the need for same-day deliveries with delivery timelines compressing as low as 10 - 20 mins and the overall shift to online shopping, especially grocery, gave impetus to Urban Logistics Spaces, more evidently post-2020. Repurposing other asset classes such as indoor parking, pack-storage facilities of retail stores, function/community halls, theatres, defunct malls/offices to sort centers/dark stores or cloud kitchens have been witnessed due to a lack of organized urban logistics space. The emergence of organized developments is expected in the segment, albeit land cost remains a significant deterrence.

UPCOMING INFRASTRUCTURE AND POLICIES

The National Logistics Policy unveiled on 17th September 2022 was drafted to integrate the development in the logistics sector to increase the efficiency of the freight modes through the development of Multi-modal Logistics Parks and the setting up of logistics data and analytics centers. Currently, the logistics cost is 13% to 14% of the GDP, and the Policy aspires to bring it down to the 8% mark.

A long-term strategic plan called the National Rail Plan, 2030 has been developed to plan infrastructural capacity enhancement along with strategies to increase the modal share of the railways in the total freight ecosystem of India. The vision of the National Rail Plan, 2030: To develop capacity and infrastructure and enhance rail freight share ahead of the demand. Develop capacity by 2030 that will cater to the growing demand of 2050. As part of the National Rail Plan, Vision 2024 has been launched for accelerated implementation of specific critical projects by 2024, such as 100% electrification, multi-tracking of congested routes, upgradation of speed to 160 km/h on Delhi-Howrah and Delhi-Mumbai routes, upgradation of speed to 130km/h on all other Golden Quadrilateral-Golden Diagonal (GQ/GD) routes and elimination of all Level Crossings on all GQ/GD route.

PM Gati Shakti - National Master Plan for Multi-modal Connectivity, essentially a digital platform to bring together 16 Ministries, including Railways and Roadways, for integrated planning and coordinated implementation of infrastructure connectivity projects. PM Gati Shakti incorporates the infrastructure schemes of various Ministries and State Governments like Bharatmala, Sagarmala, inland waterways, dry/land ports, UDAN, etc.

The scope of PM Gati Shakti National Master Plan will encompass economic transformation, seamless multi-modal connectivity, and logistics efficiency. The focus will be on planning, financing through innovative ways, the use of technology and speedier implementation. India plans to spend USD 1.4 trillion under the Gati Shakti programme to upgrade the

1 Disclaimer: The height of a typical Grade A warehouse varies from 10 to 12 m in the market with some outlying height of 9 m and 13 m. The average height of 12 m is prevalent in the market.

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nation's physical infrastructure. The logistics division in the Department of Commerce was created on 7th July 2017. The primary mandate of this division is to develop an Action Plan for the integrated development of the logistics sector in India.

FUTURE OUTLOOK

The India Warehousing Outlook for 2023 presents a promising landscape for the country's warehousing sector. With the Indian economy rebounding strongly from the impact of the pandemic, the warehousing industry is set to witness robust growth driven by factors such as the increasing consumer demand, the rise of third-party logistics (3PL) companies and increasing traction in manufacturing sectors.

Over the next four years, the warehouse stock in India is projected to witness a CAGR of 11%, ultimately reaching 516 Mn Sq.ft. by 2026. The demand for Grade A warehousing spaces, known for their modern amenities and superior infrastructure, is expected to remain strong. Notably, institutional developers and investors are actively allocating resources towards the development of high-quality Grade A warehousing spaces. The Grade A stock is anticipated to experience a CAGR of 15%, reaching 295 Mn Sq.ft. by 2026. The growing preference for good quality spaces among occupiers contributes to a consistent reduction in vacancy rates and an upward trajectory in rental prices. It is expected that vacancy rates will progressively approach 5% over the next four years.

Overall, the warehousing sector in India is poised for growth in the future years, driven by increasing demand, investments in Grade A spaces, and favorable government initiatives. The sector's expansion aligns with the broader growth of the Indian economy and its integration into global supply chains.

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JAPAN

INDEPENDENT MARKET RESEARCH

By Japan Logistics Field Institute, Inc.

NATIONWIDE MARKET FOR LOGISTICS REAL ESTATE IN JAPAN

State of the market

Japan's economic environment
Japan's real GDP for the October to December 2022 quarter came in at 0.0% (0.1% on an annualized basis). While the economy is gradually normalizing after the Covid-19 crisis, consumer spending and company profits have yet to see a full-fledged recovery.

Authorities plan to downgrade their categorization of Covid-19 from type 2 to type 5 in May 2023, and restrictions on economic activities are expected to ease. As a result, real GDP in 2023 is expected to be positive.

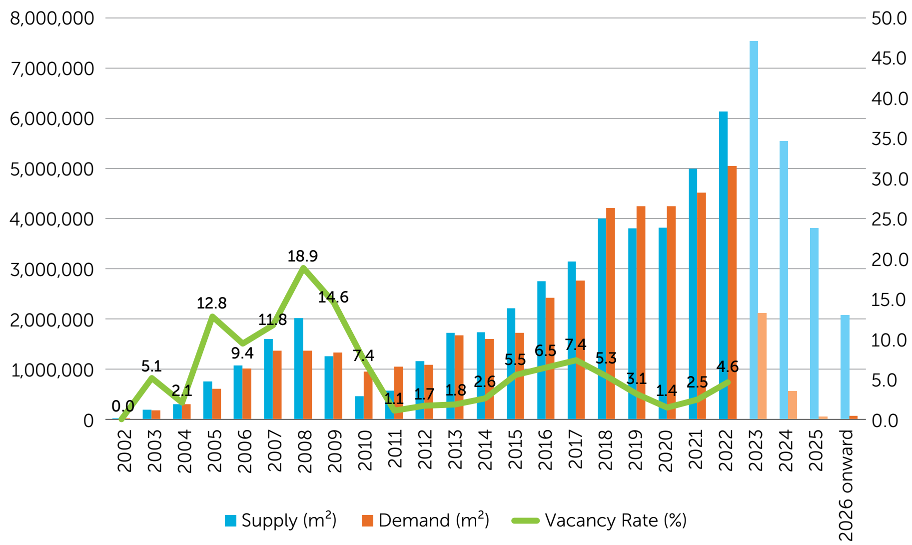
Logistics real estate market

Overall state of the market
In Japan, developers of large-scale rental logistics facilities supplied a cumulative total of approximately 43,900,000 m^2 of floor area as of the end of December 2022. As the supply has increased, the market development rate (the area of developed supply relative to warehouse stock) has also increased to 11.1% (from 9.9% in the previous year).

On the other hand, demand has also increased, to a record high of approximately 5,100,000 m^2 (4,550,000 m^2 in the previous year). From 2018 through 2021, demand remained fairly constant within the range of 4,200,000 m^2 to 4,400,000 m^2, but demand in 2022 far outstripped those figures. The vacancy rate of 4.6% at December 2022 is therefore lower than had been feared at the beginning of the year (Figure 1). The increase in supply stock and the rise in the vacancy rate have led to approximately 2,000,000 m^2 of advertised (vacant) space in developed logistics real estate as of the present time. Considering that advertised (vacant) space as of the end of 2022 was approximately 900,000 m^2, this higher volume is likely to impact the consumption of space supplied through projects that are completed in 2023. The vacancy rate has increased slightly to 7.1% in March 2023.

Of the four main metropolitan areas, the Nagoya area saw the vacancy rate reach 10%, while the rate in the Greater Tokyo area is also on the rise. The vacancy rates in the Osaka and Fukuoka areas remain low, and rent levels are continuing to firm up, particularly in the Fukuoka area.

Figure 1:
Trend in Supply-Demand Balance for Large-Scale Rental Logistics Facilities (Nationwide)



Note 1: Created from our database of large-scale rental logistics facilities constructed by major developers
Note 2: Supply and demand from 2023 onward are for total developed properties and total pre-committed area that are already known.
Note 3: As of the end of December 2022 (the same applies for other economic zones)

Acceleration in supply and reasons for the acceleration
Nationwide, supply coming onto the market was approximately 5,000,000 m^2 in 2021 and approximately 6,200,000 m^2 in 2022, and is forecast to increase further to 7,600,000 m^2 (total development projects already known about through public announcements etc.) in 2023. Supply has been sharply increasing for the last few years. Forecast developed supply for 2024 already stands at almost 6,250,000 m^2 based solely on projects already publicly announced as of the current time, so supply is forecast to remain high into 2024.

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One likely reason is the continuing rise in the number of logistics real estate developers (Figure 2). Under the impact of Covid-19, the relative popularity of logistics real estate as an investment product is running high and the market is expected to be spurred on by growth in the e-commerce sector. These factors, among others, are drawing yet more developers into the market, with the number of such companies already over 70.

Higher demand and change in composition of demand drivers

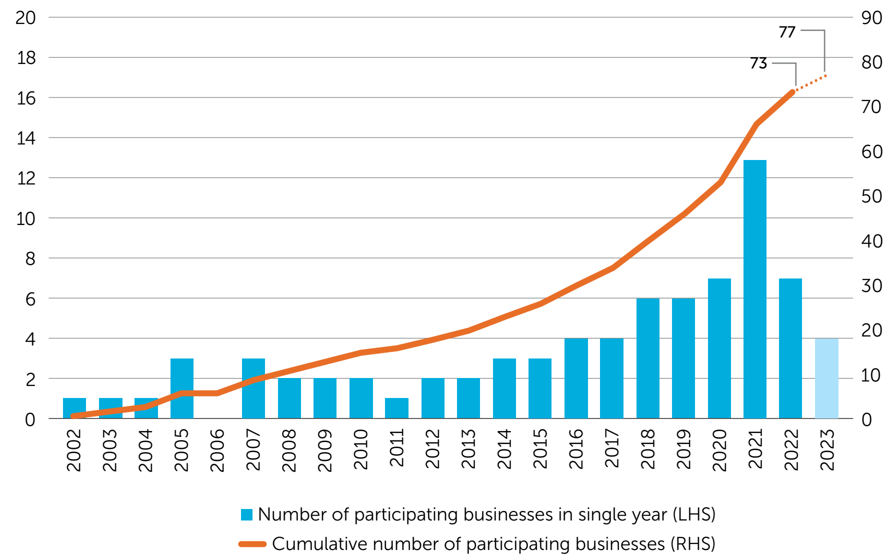
Demand in 2022 exceeded 5,000,000 m^2, which is 10% to 20% higher than the scale of demand of 4,000,000 m^2 to 4,500,000 m^2 posted for the last few years.

Most of this demand is from e-commerce operators, 3PL providers and consumer goods shippers (particularly supermarkets, drugstores, etc.). Demand from e-commerce operators, particularly the leading mall operators, accounted for a greater portion of total demand in 2022 than in 2021 and is driving up overall demand.

Trend in rent levels

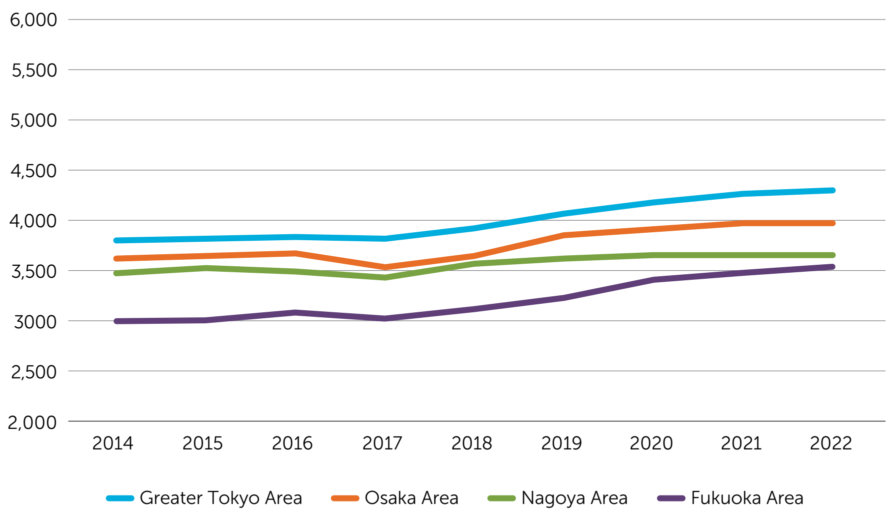
Of the four main metropolitan areas in 2022, Fukuoka had a shortage of vacant space and rent levels trended up, while they remained almost flat in Greater Tokyo and Osaka. In contrast, supply increased in the Nagoya area, causing its vacancy rate to rise and rent levels to soften slightly (Figure 3).

Figure 2:
Trend in Number of Developers Entering Logistics Real Estate Market



Note 1: The completion date of the first developed property is used as the entry date.
Note 2: The number of participating businesses was revised up following a review of the data (included small-scale developers and 1 large-scale developer).

Figure 3:
Rent Index in Main Areas

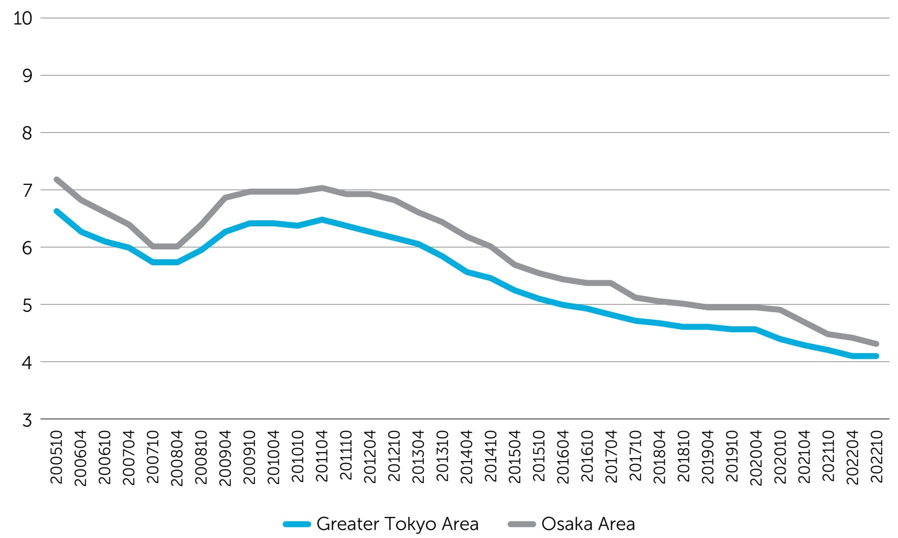


Note: Calculated using the average rent levels in the main districts of each economic zone

Trend in cap rate for investors
The cap rate for investors in logistics real estate has declined nearly every year from 2011 and has already fallen far below the level seen prior to the Global Financial Crisis. The cap rate for investors as of October 2022 fell to 4.1% and 4.4% on multi-tenant facilities in the Greater Tokyo and Osaka areas respectively (Figure 4).

In many cases it has fallen to the 3% range on an NOI basis on actual sales. In addition, not only developed properties but also income-generating properties among existing facilities continue to be increasingly highly appraised and are selling at a low cap rate.

Figure 4:
Cap Rate for Investors in Logistics Real Estate



Note 1: Expected value for multi-tenant facilities in both the Greater Tokyo and Osaka areas (average value for bayside and inland areas)
Note 2: Based on the Real Estate Investor Survey by the Japan Real Estate Institute

Marketability within Japan
The market development rate* in Japan is estimated to be approximately 11.1%, which remains low. Large-scale, modern-spec facilities that enable greater efficiency and provide generous amenities are sought after, and the need for logistics real estate remains strong. As the issue of labor availability becomes more pressing in the future, logistics real estate that offers ample amenities is expected to provide an edge in the securing of labor.

Main factors behind increased demand and supply

Main factors behind demand

Emergence of last mile delivery demand
Demand among e-commerce-related companies is firming up, not only for storage and distributive processing facilities, but also for bases for home delivery. Amazon is proactively establishing delivery stations (DS) all around Japan. Many of these DS are using warehouses in city centers, but in many cases they are using logistics real estate to avail themselves of large sorting spaces and truck berths.

In response to last mile delivery demand, a trend is emerging toward developing small-scale logistics facilities of about 2,000 tsubo (equivalent to approximately 6,610 m^2) in areas close to the city. Rents for these facilities that meet last mile delivery demand are high. However, there are not necessarily many suitable sites, so supply that meets last mile delivery demand is limited.

Emerging demand for cold storage facilities
The volume of refrigerated foods being distributed around Japan is increasing. That said, there is a growing shortage of cold storage facilities against a backdrop of aging cold storage warehouses and the required replacement of refrigeration equipment under regulations on the use of chlorofluorocarbons (CFCs) as a cooling medium. More and more developers are responding to the demand for cold storage facilities (frozen and chilled).

Signs of increasing development of logistics real estate for producer goods accompanying reshoring in the manufacturing industry
There are emerging indications of reshoring in the manufacturing industry triggered by the depreciation of the yen, developments in automation and the reconsideration of supply chains. As manufacturing plants establish themselves within Japan, there are cases of logistics real estate being used to meet the need. Demand is particularly noticeable in locations such as the Fukuoka area and Sendai metropolitan area.

Main factors behind supply

Continued rise in development costs
In addition to the rising cost of acquiring sites, construction costs are increasing due to higher steel prices. Labor costs are also expected to rise (which will be an issue in the construction industry in 2024), so development costs are likely to continue to increase.

* Market development rate: Total floor area of developed large-scale properties as of the end of 2021 / estimated area of ordinary warehouses nationwide

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These higher costs are likely to be passed through to asking rents, as has already been seen for some properties.

Greater efforts toward developing multi-temperature-zone warehouses
The volume of refrigerated foods distributed nationally is rising, while existing cold storage warehouses are aging and cold storage facilities need to be updated. This has resulted in rising demand for cold storage warehouses. Previously, logistics real estate needed only to have been equipped with insulation against heat, but several developers have started developing rental premises that include cold storage facilities (most of which are build-to-suit developments, but multi-tenant developments have also begun to crop up). Furthermore, some developers are now progressing plans to lease warehouses already fitted out with automatic machinery.

Advancement into regional areas with good location potential
Development is continuing apace, not only in regional central urban areas such as Sapporo, Sendai, Hiroshima, Okayama and Naha, but also in regional cities such as Niigata, Toyama, Ishikawa, Iwakuni, Morioka, Hanamaki and Sano. Tenants envisaged for developments in these regions include businesses that need large manufacturing plants (such as manufacturers of cars or precision instruments) and leading national food wholesalers looking to establish new locations in regional areas.

Other factors

Labor availability
For a time in 2020, it was easy to employ transport drivers and warehouse workers, but since the latter half of 2021, it has become more difficult to secure labor. Regulations around work hours for drivers will be tightened under an amendment of the law in 2024 (the yearly overwork limit will be set to 960 hours), so securing labor such as drivers could become an issue from next year. Although the working environment for drivers is likely to improve, there are concerns that the salary paid to drivers will decline, and the shortage of workers such as drivers has been raised as a serious problem. These shortages are likely to have noticeable impacts not only on long-distance deliveries but also on short-distance regional deliveries, and new demand is forecast to emerge for facilities such as satellite logistics facilities.

Rise in demand for dangerous goods warehouses
Fires breaking out in large-scale rental logistics facilities have long been recognized as an issue and there are concerns regarding the burden of requirements to improve fire-prevention equipment and the impact on fire insurance premiums. In connection with this issue, the demand for hazardous material storage is on the rise. There are cases of logistics operators and manufacturers who handle daily sundry goods and industrial products demanding the construction of an attached dangerous goods warehouse as a condition for moving in. In addition, a growing number of multi-tenant facilities now come with attached dangerous goods warehouses.

Outlook

Outlook for development volume

On a nationwide basis, the scheduled development volume for 2023 is expected to be the largest supply ever. Supply is also projected to be the largest ever in the Greater Tokyo and Nagoya areas.

In 2022, bids continued to be sought for sites eligible for development all around the Greater Tokyo and Osaka areas, and developers continue to aggressively acquire sites, as exemplified by the rise in acquisitions of land readjustment plots which provide the opportunity to acquire land cheaply, even though they will take time to develop. Given this situation, it is difficult to imagine that the development volume will return to its previous level of 4,000,000 m^2 annually, and supply is likely to continue to be high at more than 6,000,000 m^2 for some time.

Outlook for demand volume

Based on nationwide trends in demand volume, demand is forecast to be approximately 5,000,000 m^2. The high volume of development projects is additionally expected to spur demand, so demand volume exceeding the record of 5,000,000 m^2 is forecast for 2023. The outlook for individual demand is as follows.

Demand from 3PL providers
Shippers' efforts towards greater logistics efficiency were hampered by the Covid-19 crisis, so competition among shippers requiring logistics space continues to be subdued. Although shippers are aggressively reviewing their logistics bases as a means of improving efficiency, they have become slightly more tentative about seeking efficiency gains through outsourcing. Currently, the volume of demand from 3PL providers has not yet recovered to previous levels, and the business environment for 3PL providers is expected to remain sluggish in 2023, so leasing levels for logistics spaces are forecast to be in line with those for 2022. Currently, demand from 3PL providers has not returned to previous levels. After 2023, when the economy starts to revitalize, it is expected that the business environment for 3PL providers will improve, and that lease demand will increase accordingly.

E-commerce-related demand
E-commerce-related demand is growing year by year. In 2022 it was roughly just below 30% of total demand. Demand solely from particular e-commerce site operators accounted for a share of roughly just below 20% of total leasing demand. Although demand from 3PL providers was sluggish, it accounted for a record share of total leasing demand.

Demand for large-scale storage facilities and last mile delivery bases in Japan's four main metropolitan areas is likely to continue in line with e-commerce-related demand.

Shipper-related demand
As logistics costs rise, major shippers are themselves striving to improve logistics efficiency (switching to 2PL). This switch to 2PL results in the shippers directly leasing logistics real estate. This is particularly the case with companies such as drugstores and major retailers of apparel and furniture. Given this situation, leasing by shippers is also likely to increase.

Outlook for supply-demand balance

Short-term (2023) outlook

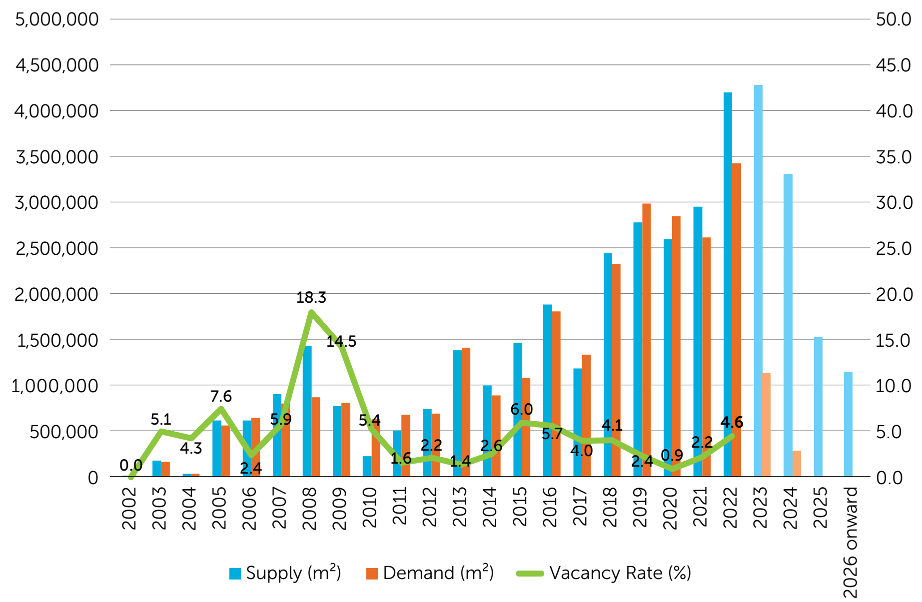
The outlook for 2023 is for record supply of approximately 7,500,000 m^2 in addition to approximately 2,000,000 m^2 of vacant space in completed premises. Even if economic conditions for logistics largely recover, demand is unlikely to keep pace with supply given the volume of vacant space and new supply. The vacancy rate at the end of 2023 is expected to exceed that of 2022.

Medium and long-term outlook

Japan's e-commerce market will grow at a steady pace (the assumed annual growth rate for the overall market is about 8%), but it is nevertheless likely to continue to drive up domestic demand for logistics real estate. Although the drop in Amazon's growth rate in the United States has drawn attention, Japan's e-commerce penetration rate is still low (the B2C e-commerce penetration rate in Japan is 8.78%) and, in light of latent demand, logistics bases in Japan will likely continue to be developed in the short and medium terms. The supply volume is expected to stabilize over the long term and the supply-demand balance will likely remain steady.

Figure 5:
Trend in the Supply-Demand Balance (4 Main Metropolitan Areas)

1. Greater Tokyo area



Note: Same conditions as nationally (the same is true of the following economic zones)

Outlook for rent levels

With the projected overall deterioration in the supply-demand balance in 2023, real rent levels are expected to soften in an increasing number of areas. As development costs rise, asking rents and contracted rents will increase, but it will likely become more common to see real rents being reduced via an extension to the rent-free period.

TRENDS IN THE LOGISTICS REAL ESTATE MARKET IN THE MAIN ECONOMIC ZONES

Greater Tokyo area

Approximately 65% of logistics real estate development is concentrated in the Greater Tokyo area. From 2015, the vacancy rate in the Greater Tokyo area remained on a downward trend, falling to approximately 0.9% by the end of 2020. However, after bottoming out, the vacancy rate rose to 2.2% by the end of 2021, exceeding the rate posted the previous year, and rose further to 4.6% by the end of 2022. This has resulted in the largest ever volume of vacant space (approximately 1,300,000 m^2 against 28,000,000 m^2 of cumulative supply volume) in completed logistics real estate in the Greater Tokyo area. The vacancy rate has risen slightly to 7.7% in March 2023.

The rise in the vacancy rate stems from the sharp rise in supply despite record demand from businesses such as e-commerce companies and 3PL providers. A large volume of newly developed supply is forecast for the Greater Tokyo area in 2024, so demand, including consumption of existing vacant space, may not keep pace and the vacancy rate may be even higher at the end of 2023 than it was at the end of 2022 (Figure 5).

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Osaka area

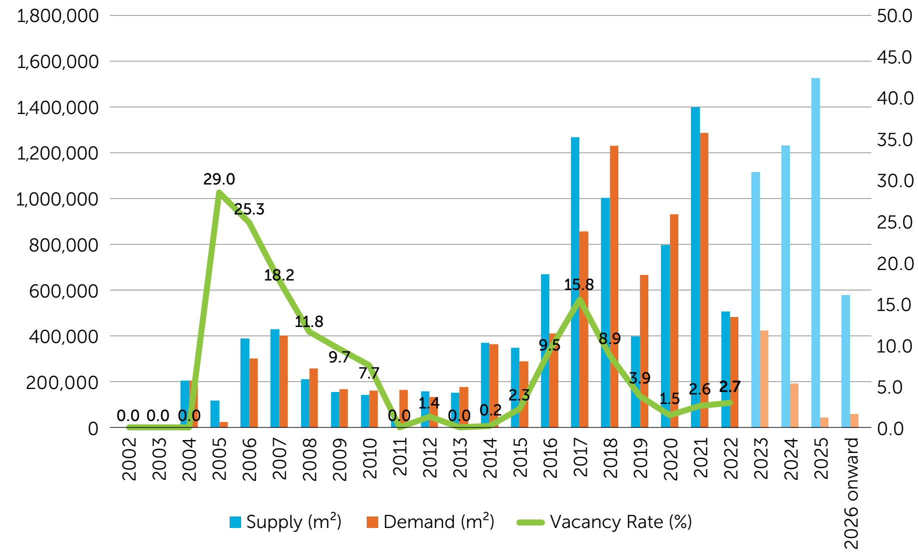
Although the vacancy rate in the Osaka area jumped as a result of the historically large volume of supply in 2017, the somewhat limited supply in 2018 through 2020 coupled with a recovery in economic conditions for logistics led to strong demand and the vacancy rate fell to 1.5% by the end of 2020. There was again a large volume of supply in 2021, but demand kept pace. Therefore, despite the expected large rise in the vacancy rate, it ended 2021 at no more than 2.6%. Supply volume in 2022 was lower than in previous years, but demand was also low, with the result that the vacancy rate of 2.7% at the end of 2022 was about the same as at the end of 2021. The vacancy rate is also holding steady at 3.9% in March 2023.

While the vacancy rate is currently low, developers are proactively attracting tenants in anticipation of increasing supply from 2023 onward. For this reason, a fall in real rents can be seen in some regions. Supply will continue to be high from 2023 onward, so the tightness in the supply-demand balance is likely to gradually ease.

Nagoya area

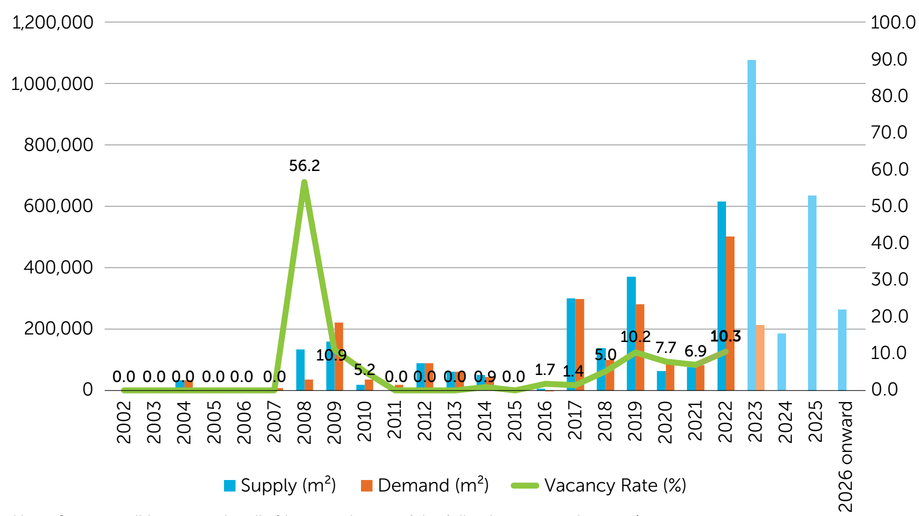
The vacancy rate at the end of 2021 was high at 6.9%, rising further to 10.3% at the end of 2022. Vacant space in developed properties in the Nagoya area has thus reached a record high. It is increasingly common to see developed properties still advertising for tenants after their completion and vacated properties taking longer to find replacement tenants. In parts of the Nagoya area where the scale of demand is not so high (about 1/7 of demand in the Greater Tokyo area), development is scheduled to exceed 1,000,000 m^2 in 2023 alone. Considering that the maximum annual demand previously was about 500,000 m^2, the vacancy rate may rise further in 2023. The vacancy rate has risen slightly to 11.8% in March 2023.

2. Osaka area



Note: Same conditions as nationally (the same is true of the following economic zones)

3. Nagoya area



Note: Same conditions as nationally (the same is true of the following economic zones)

Characteristic to the Nagoya area is automobile-related demand in the eastern part of Nagoya. There is no vacant space in areas where manufacturing plants related to automobile production are located (such as the Toyota and Okazaki districts) and the radius within which leasing properties are normally sought has expanded to the outskirts of Nagoya City.

Fukuoka area

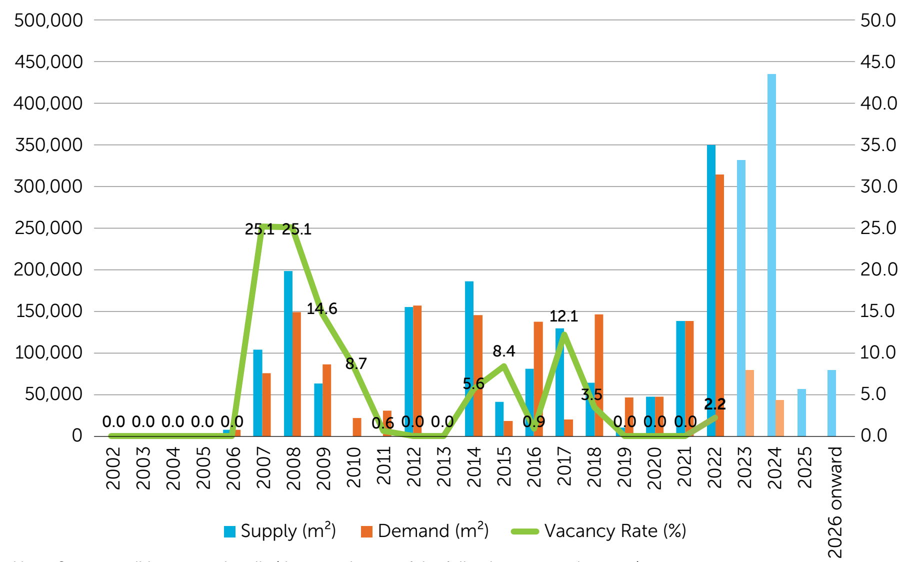
The vacancy rate for large-scale rental logistics facilities has been sitting at 0% since 2019. Despite the relatively large volume of supply in 2021, tenants have already been found for all spaces and the vacancy rate at the end of 2021 was again 0%. Currently (as of the end of March 2023) it has increased slightly to 1.6%. Because the market has remained tight for some time in the Fukuoka area, rent levels have also continued to trend up since 2019 to the current time.

So far, developments have been located in areas that are relatively close to the city, such as around Fukuoka Interchange and in the Kashiihama and Tosu districts, but from 2023 onward, development will increase in suburban areas of Fukuoka, as it has in other cities.

The Fukuoka metropolitan area is about 1/10 of the market size of the Greater Tokyo area and the situation from 2023 onward will differ from what it has been so far. Greater supply may cause the supply-demand balance in the Fukuoka area overall to loosen.

In addition, demand related to the manufacturing industry is more vigorous in the Fukuoka area than in other economic zones, and there is expected to be demand related to production goods not only in the Fukuoka metropolitan area but also in districts such as Kumamoto, where a large-scale semiconductor plant is being developed.

4. Fukuoka area



Note: Same conditions as nationally (the same is true of the following economic zones)

Other areas

Market trends in Sendai metropolitan area

The scale of demand in the Sendai metropolitan area is essentially about 1/20 of that in the Greater Tokyo area. Reconstruction demand has driven up regional demand for warehouses but is now shrinking. Development is shifting from build-to-suit facilities to multi-tenant facilities, which are currently being developed in the Iwanuma, Izumi, Natori, Oroshimachi and Ogimachi districts. Although reconstruction demand has softened compared with the years immediately after the Great East Japan Earthquake, the supply of rental space is currently limited, so there is little vacant logistics space and rents are inching up.

The Sendai metropolitan area is increasingly drawing developers' attention, and development will increase in the future.

Market trends in Sapporo metropolitan area

In the Sapporo metropolitan area, logistics facilities are springing up in Sapporo City and the surrounding districts. Previously, build-to-suit developments have been the most common type of development, but multi-tenant facilities are now also being developed in suburban areas such as Higashikariki and Kitahiroshima. The scale of the metropolitan area is not large, so demand pressure is also not as high as in the four main metropolitan areas. Rents are currently flat.

Market trends in Hiroshima metropolitan area

In the Hiroshima metropolitan area, multi-tenant facilities have recently begun operating in the center of the coastal area, and new multi-tenant facilities are also operating in Seifushinto and Shiwa districts in the hilly area of the city. Around Nishi-ku (the area adjacent to Shoko Center) in the coastal area, there is no vacant space, so demand pressure is higher than in other regional areas and rents are on the high side for a regional area. Development is also increasing in the inland areas, with multi-tenant logistics facilities cropping up in districts such as Seifushinto and Shiwa. Tenants are also gradually being lured to the inland areas.

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By Knight Frank

MACRO ECONOMY OVERVIEW

Gross Domestic Product and Inflation Rate

Malaysia's economy expanded 8.7% in 2022 (2021: 3.1%), supported by improvement in market conditions with continued policy support following the country's transition to the endemic phase on 1 April 2022 (Figure 1). This growth is further supported by continued investment activity and resilient demand for the electrical and electronic (E&E) industry and recovery in tourism activities.

For 2023, Malaysia's economy is forecast to expand at circa 4.0% amid a global slowdown. Growth would also be boosted by the realization of large infrastructure projects and recovery in international tourist arrivals. The country's economic growth, however, remains vulnerable to potential risks such as weaker-than-expected global growth, higher risk aversion in global financial markets, further escalation of geopolitical conflicts, and potential supply chain disruptions.

In 2022, headline inflation averaged higher at 3.3% due to the increase in global commodity prices as a result of the Russia-Ukraine conflict and other factors.

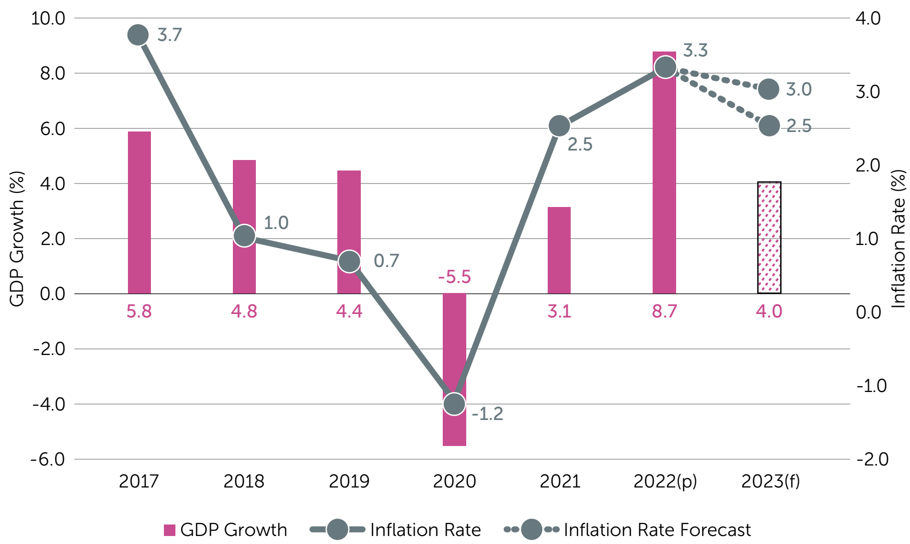
For 2023, headline inflation is expected to range between 2.5% and 3.0% due to demand and cost pressures although it would be partly contained by existing price controls, subsidies, and spare capacity in the economy. However, the risk of inflation in 2023 is tilted to the upside and subject to domestic policy measures on subsidies and global commodity prices, particularly due to the ongoing conflict in Ukraine and prolonged supply disruptions.

Malaysia Retail Trade and Retail Sales

Malaysia's annual retail trade increased 3.2% to register at RM107.3 billion in 2021 (2020: RM104.0 billion). In 2022, it improved further by posting double-digit growth of 18.3% to register at RM127.0 billion (Figure 2).

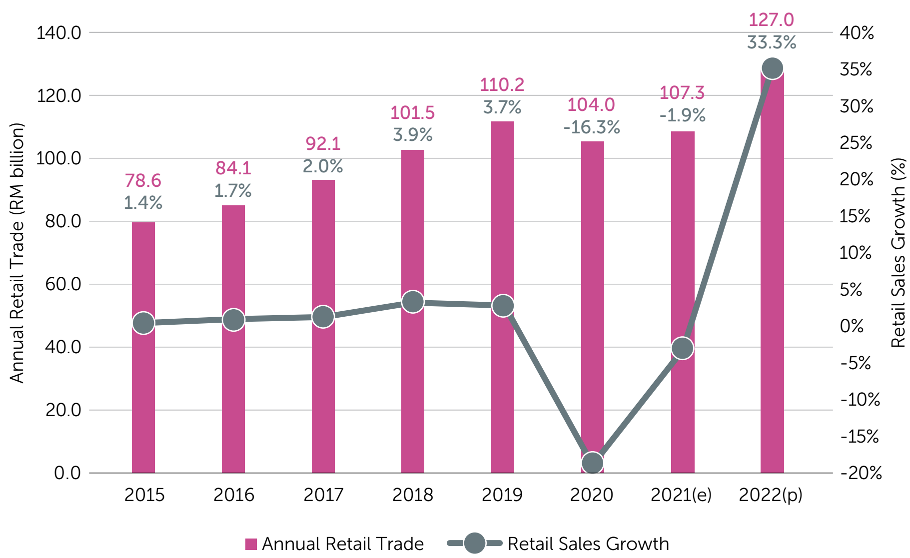
As for retail sales growth, despite new market challenges faced by retailers amid rising cost of living, Retail Group Malaysia (RGM) has revised upwards its annual projection for 2023 from the initial estimate of 3.5% to 4.0%.

Figure 1:
Malaysia - GDP Growth and Inflation Rate at Constant 2015 Prices, 2017 to 2023^(f)



Sources: Department of Statistics Malaysia (DOSM) / Bank Negara Malaysia (BNM)
Note: (p) = Preliminary data; (f) Forecast

Figure 2:
Malaysia - Retail Trade and Sales Growth, 2015 to 2022^(p)



Sources: Department of Statistics Malaysia (DOSM) / Retail Group Malaysia (RGM)
Notes: (e) = Estimates; (p) = Preliminary data

Malaysia External Trade

In 2022, the nation observed a 25.0% increase in the total value of exports to RM1,551.7 billion with a 31.3% rise in total value of imports to RM1,296.6 billion (Figure 3) (2021: Export and Import Values of RM1,241.0 billion and RM987.3 billion).

During the year, trade balance was marginally higher by 0.6% to reach a total of RM255.1 billion, compared to the previous year's balance of RM253.7 billion. This positive trade balance indicates an increase in demand for industrial goods which may lead to higher production and prices in the industrial market.

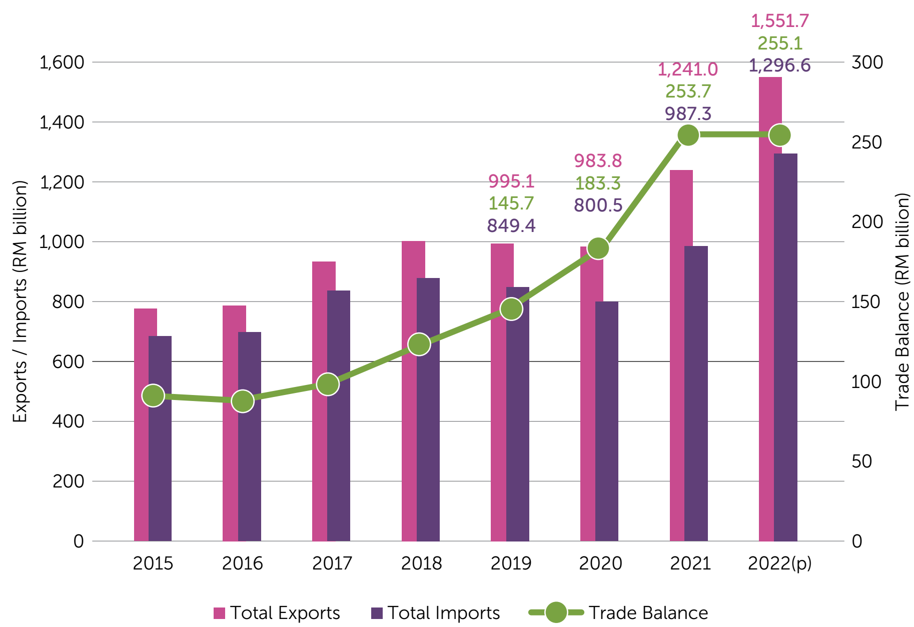
For the period under review (2015 to 2022), Malaysia's external trade posted healthy CAGRs of 10.4% for export, 9.5% for import and 15.8% for trade balance.

Foreign Direct Investment

Malaysia saw a year-on-year (y-o-y) decline of 21.7% in Foreign Direct Investment (FDI) in 2022, recording at RM163.3 billion (2021: RM208.6 billion in 2021). This was largely attributed to the sharp fall of FDI in the manufacturing sector, from RM179.6 billion in 2021 to RM66.0 billion in 2022 (Figure 4).

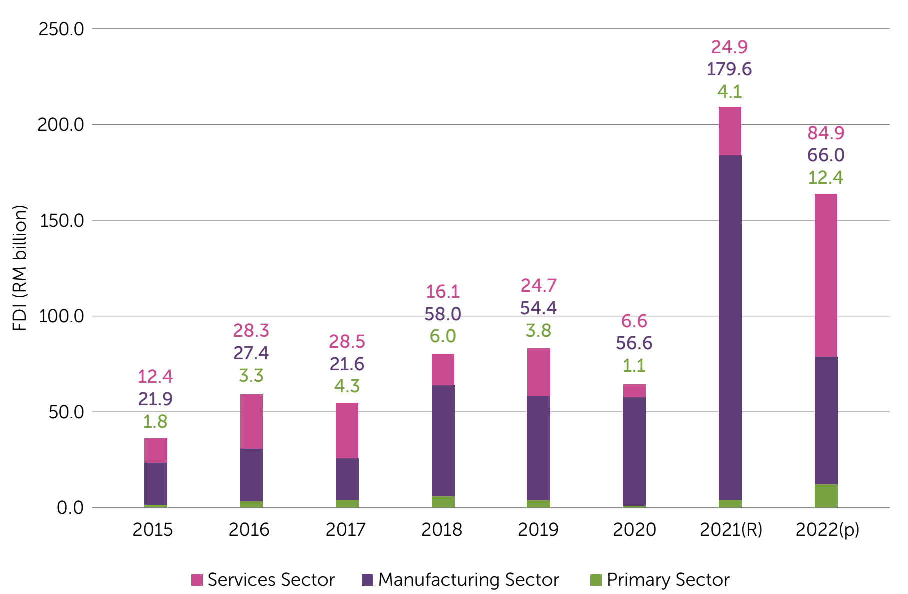
In contrast, the services sector rebounded strongly amid global borders reopening coupled with economic activities returning to normalcy. It attracted total approved investment value of circa RM84.9 billion in 2022, overtaking the manufacturing sector (2022: RM66.0 billion). The top investment countries were Singapore and China, with RM9.6 billion each, followed by Japan with RM9.2 billion.

Figure 3:
Malaysia - External Trade, 2015 to 2022(p)



Sources: Department of Statistics Malaysia (DOSM) / Knight Frank Research
Note: (p) = Preliminary data

Figure 4:
Malaysia - Foreign Direct Investment (FDI), 2015 to 2022(p)



Sources: Malaysian Investment Development Authority (MIDA) / Knight Frank Research
Note: (R) = Revised; (p) = Preliminary data

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LOGISTICS MARKET INDICATORS

Logistics Market Trends and Performance

Logistics facilitates the flow of goods within and beyond national borders and is deemed a significant component of the modern economy. Besides facilitating trade with other economies, it is a key enabler for economic sectors such as manufacturing, agriculture and retail, delivering positive multiplier effects such as improved market accessibility and employment.

Presently, the logistics industry in Malaysia is fragmented with a large number of players across the value chain. Moving forward, the industry is expected to grow in tandem with increasing trade, capitalising on the e-commerce wave. Various policies to resolve bottlenecks in the logistics sector, strengthen regulation and deploy technologies and human capital have been introduced under the Logistics and Trade Facilitation Masterplan (2015 – 2020) and National Transport Policy (2019-2030) to elevate Malaysia to become a regional player.

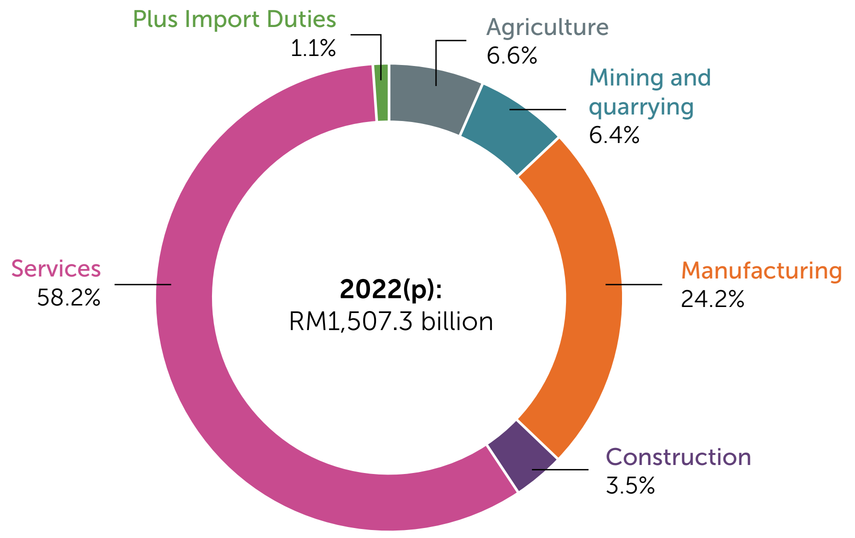
This section reviews the potential of the logistics industry by assessing performances of the transportation and storage services (TSS) and cargo / container segments.

Transportation and Storage Services (TSS)

The national economy expanded 8.7% in 2022, with the value of gross domestic product (GDP) recorded at RM1,507.3 billion (2021: RM1,386.7 billion). The services sector, which served as the major contributor to the country's economy, accounted for 58.2% share of GDP with RM877.4 billion (Figure 5).

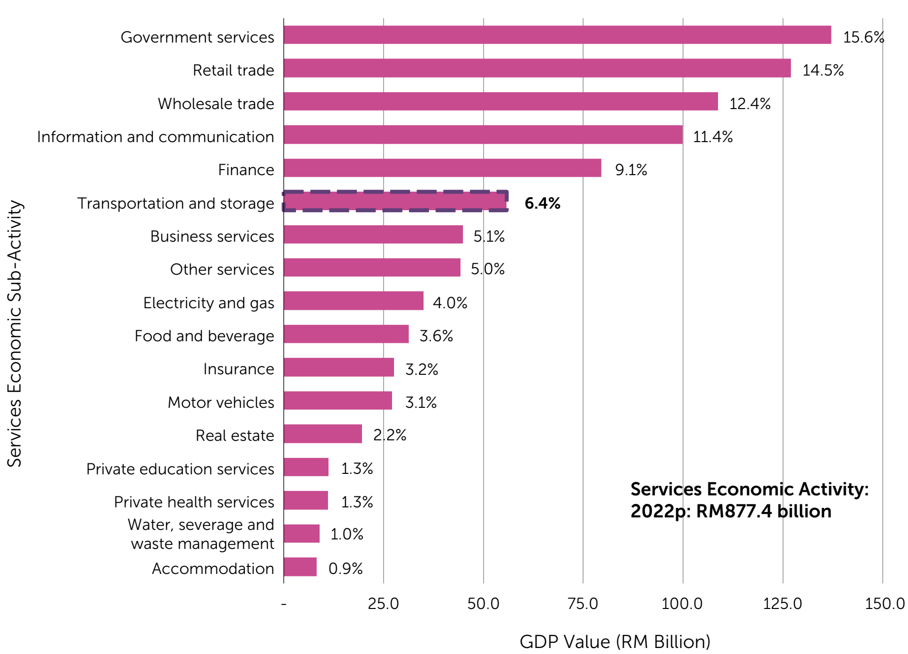
Government services activity dominates the services sector with 15.6% share, followed by retail trade (14.5%), wholesale trade (12.4%), information and communication (11.4%), finance (9.1%) and transportation and storage (6.4%) (Figure 6).

Figure 5:
Malaysia GDP - Percentage Share by Sector, 2022[(p)]



Sources: Department of Statistics Malaysia (DOSM) / Knight Frank Research
Notes: (p) = Preliminary data
(1) GDP at 2015 constant prices

Figure 6:
Malaysia GDP - Percentage Share of Services Economic Sub-Activity, 2022[(p)]



Sources: Department of Statistics Malaysia (DOSM) / Knight Frank Research
Notes: (p) = Preliminary data
(1) GDP at 2015 constant prices

During 2022, the services sector recorded a value of RM877.4 billion, with a 6.4% or RM55.8 billion contribution from transportation & storage services (TSS).

The following section analyses the TSS activities from 2015 to 2021(p) (The data for 2022 is yet to be made available).

There are seven major key economic activities within the TSS segment, namely land transport; water transport; air transport; port and airport operation; highway operation; support activities for transportation and postal & courier.

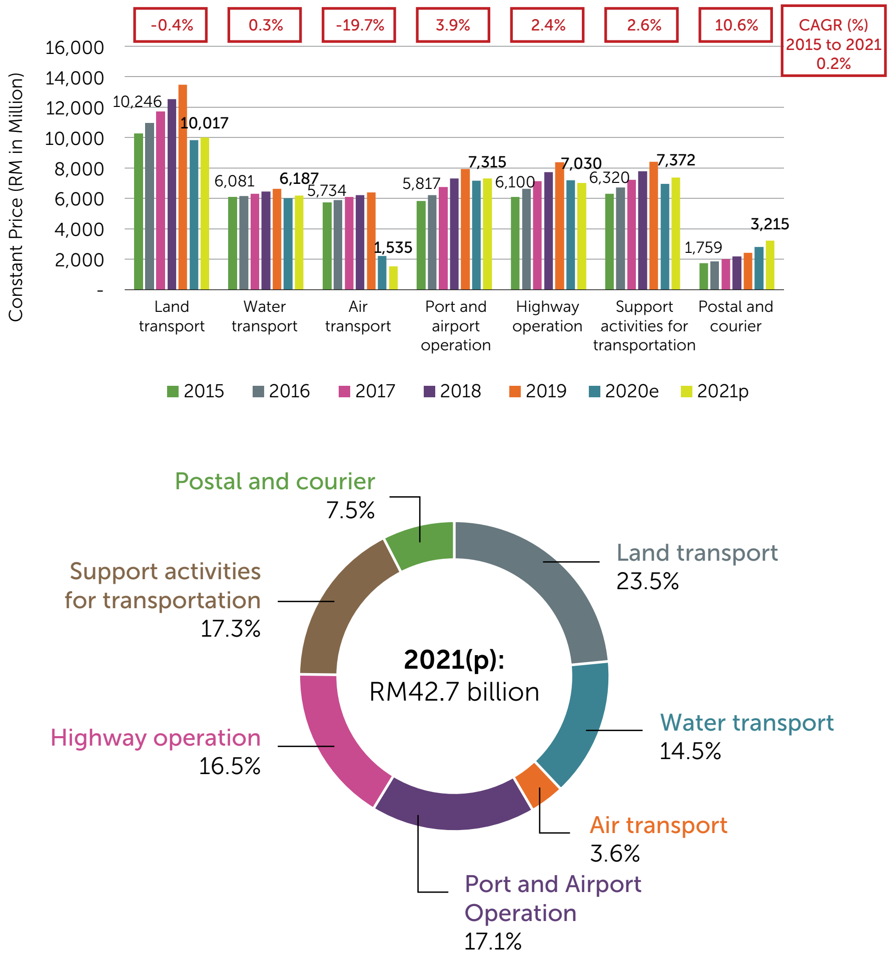
In 2021, the transportation & storage services (TSS) made up 5.4% of the services sector or RM42.7 billion, representing a year-on-year (y-o-y) increase of 1.3% (2020: RM42.1 billion) as well as a CAGR of 0.2% for the period from 2015 to 2021(p) (Figure 7).

Land transport activity continues to dominate the TSS segment, registering a value of RM10.0 billion (in constant 2015 price) or 23.5% share in 2021(p). Meanwhile, air transport activity contributed the least with 3.6% share while contribution from the remaining key activities ranges from 7% to 18%.

From 2015 to 2021(p), postal & courier activity experienced rapid growth with CAGR analysed at 10.6%, followed by port & airport operation and support activities for transportation with CAGR of 3.9% and 2.6% respectively. Highway operation and water transport grew moderately at 2.4% and 0.3% respectively, while land transport and air transport activities reflected CAGR of -0.4% and -19.7% respectively.

The demand for logistics services and strategically located warehouse space is expected to remain in expansionary mode to support the entire supply chain in the primary and manufacturing sectors.

Figure 7:
Malaysia - Transportation & Storage Services Contribution by Economic Activity, 2015 to 2021(p)



Sources: Department of Statistics Malaysia (DOSM) / Knight Frank Research
Notes: (p) = Preliminary data
(1) GDP at 2015 constant prices

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Cargo and Container Throughput by Ports

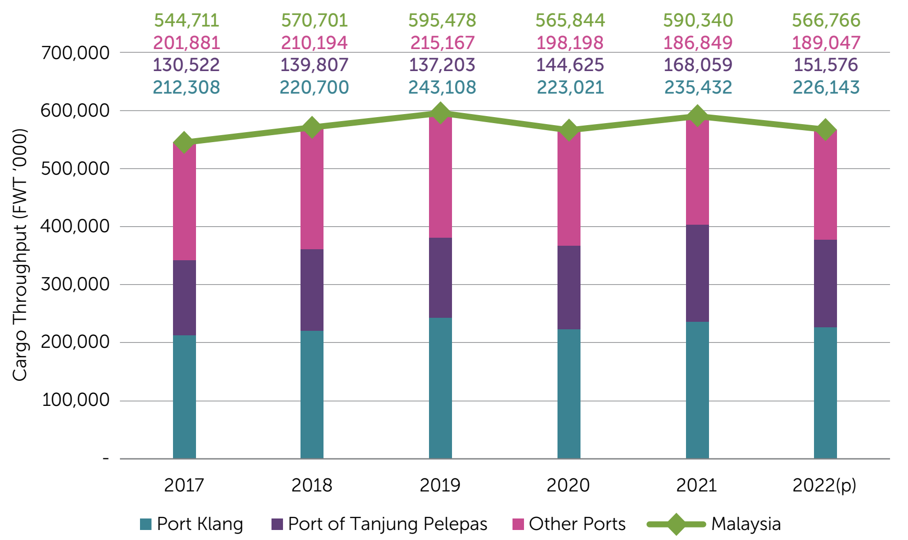
Cargo and container throughput by ports mainly support the cross-border export and import of goods. There are nine ports in Peninsular and 13 ports in East Malaysia. In Klang Valley the main port is Port Klang (inclusive of Northport and Westport). Meanwhile in Johor, there is one port known as Port of Tanjung Pelepas.

In 2022, cargo and container throughput (including trans-shipment) via Malaysia ports were 566.8 million tonnes and 27.3 million TEUs respectively (Figure 8). When compared with the performance in 2021, the cargo handled and the container throughput were lower on the year by 4.0% and 3.8% respectively.

It is estimated that some 39.9% and 48.5% of the cargo and container throughput via ports in Malaysia are handled by Port Klang (Northport and Westport), accounting for circa 226.1 million tonnes and 13.2 million TEUs respectively (Figure 9).

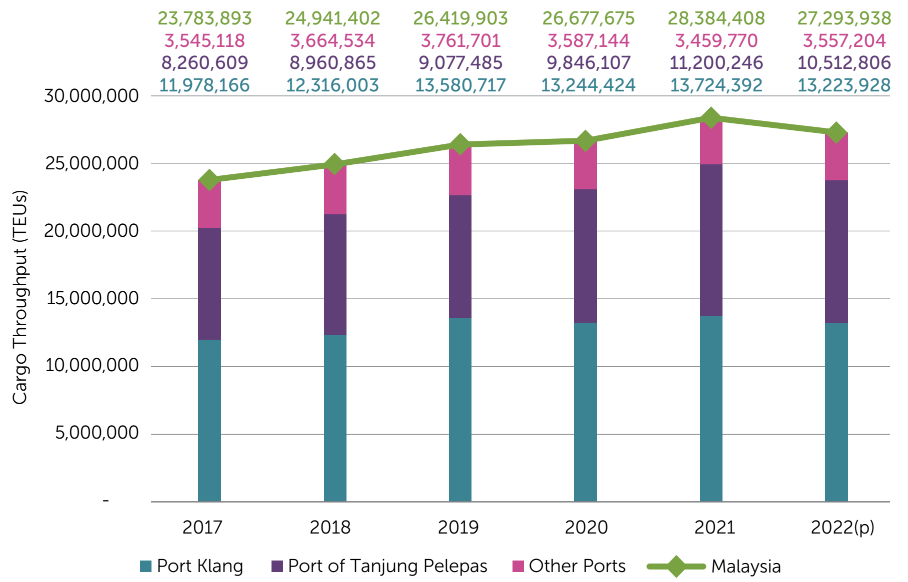
Meanwhile, Port of Tanjung Pelepas handled 151.6 million tonnes of cargo and 10.5 million TEUs of containers in 2022, representing 26.7% and 38.5% of Malaysia's market share respectively.

Figure 8:
Malaysia - Total Cargo Throughput by Port (Freight Weight Tonne '000) 2017 to 2022(p)



Sources: Ministry of Transport (MOT) / Knight Frank Research
Note: (p) = Preliminary data

Figure 9:
Malaysia - Total Container Throughput by Port (Twenty Equivalent Units TEUs), 2017 to 2022(p)



Sources: Ministry of Transport (MOT) / Knight Frank Research
Note: (p) = Preliminary data

Cargo Handled by Airports
There are seven international airports and 16 domestic airports in Malaysia.

In Selangor, there are two international airports (Kuala Lumpur International Airport, KLIA and Kuala Lumpur International Airport 2, KLIA2) and a domestic airport (Sultan Abdul Aziz Shah Airport, Subang). Meanwhile, Penang is served by Penang International Airport.

Figure 10 analyses cargo handled by all/selected airports from 2015 to 2022.

Air freight is generally the most expensive mode.

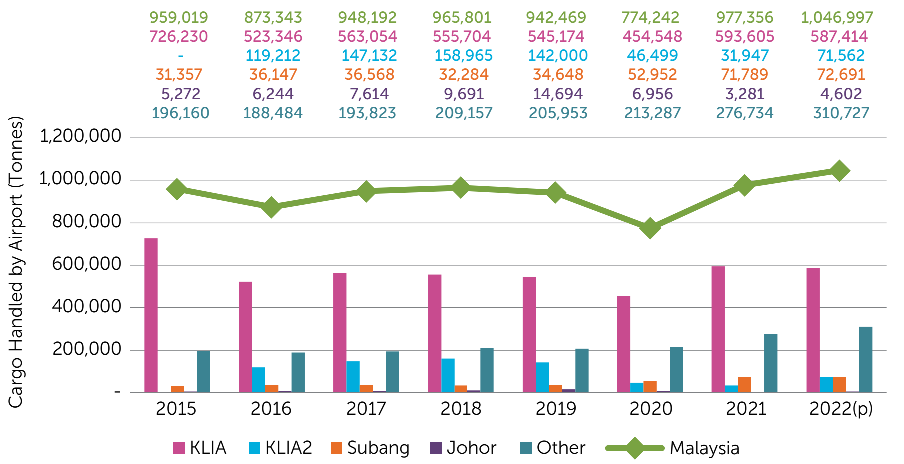
In 2015, Kuala Lumpur International Airport (KLIA) handled circa 75.7% of the national cargo via air freight, recording 726,230 tonnes. However, since Kuala Lumpur International Airport 2 (KLIA2) began operations in 2016, the cargo handled by KLIA has begun to decline to record freight weight tonnes (FWT) of between 454,548 tonnes and 593,605 tonnes annually. As for KLIA2, it has been handling circa 31,947 tonnes to 158,965 tonnes a year.

Meanwhile, the cargo handled by Johor airport has been growing consistently from circa 5,272 tonnes in 2015, peaking at 14,694 tonnes in 2019 before declining to circa 4,602 tonnes in 2022.

For the period between 2015 and 2022, cargo handled by all airports in Malaysia recorded a marginal CAGR of 1.3%. The outbreak of COVID-19 pandemic has hampered the aviation and air transport related sector.

Alibaba's e-fulfilment hub, also known as Cainiao Aeropolis eWTP Hub at Kuala Lumpur International Airport (KLIA), began operation in late 2020. The target of the e-fulfilment hub is to see cargo volumes and freighter flights double within a decade. The hub targets vertical markets from the automotive, sporting goods, fast-moving fashion and lifestyle, retail electronics and medical equipment sectors, among others.

Figure 10:
Malaysia - All / Selected Airports – Cargo Handled, 2015 to 2022(p)



Sources: Ministry of Transport Malaysia (MOT) / Malaysia Airports Holdings Berhad / Senai Airport Terminal Services Sdn Bhd / Knight Frank Research
Notes:
(p) = Preliminary data
(1) Cargo handled excludes cargo in transit

Table 1:
Southeast Asia – Growth of Gross Merchandise Value (GMV) by Selected Sectors, 2021 to 2022 and Forecast from 2022 to 2025

	E-Commerce Sector		Transport & Food Sector	
Market	2021 vs 2022	Forecasted CAGR 2022 - 2025	2021 vs 2022	Forecasted CAGR 2022 - 2025
Vietnam	26%	37%	17%	21%
Indonesia	22%	17%	19%	22%
Philippines	17%	17%	21%	29%
Thailand	8%	13%	12%	20%
Malaysia	**6%**	**10%**	**22%**	**18%**
Singapore	4%	9%	20%	17%

Sources: e-Conomy SEA Report / Knight Frank Research

E-Commerce
The booming e-commerce business appears to be a silver lining consequential to the pandemic, growing tremendously in the past couple of years while increasing demand for warehousing in more locations. The e-commerce industry, which has witnessed steep acceleration at the height of the pandemic, has continued to expand albeit at a slower pace.

The countries in Southeast Asia encountered different growth trends.

Malaysia is expected to continue its growth trajectory from a higher starting point after its steep trajectory during the pandemic.

MALAYSIA
INDEPENDENT MARKET RESEARCH

OVERVIEW: LOGISTICS MARKET IN KLANG VALLEY & JOHOR BAHRU

Supply

Existing Supply
In the past year, the logistics industry has continued to outperform many other sectors. The industrial property sector remains on an upward growth trajectory with a steady pipeline of distribution and warehouse projects, driven by strong and steady demand from both logistics players and investors.

As of 2022, the estimated warehousing space in Klang Valley stood at 52.4 million sq ft, depicting an annual increase of 2.5% (Figure 11). Meanwhile, in Johor, the warehousing space remained stable at 15.4 million sq ft.

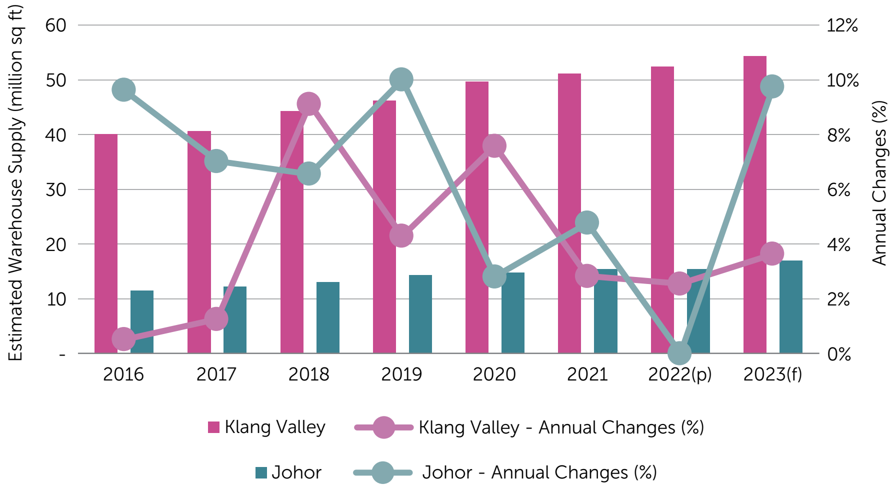
No notable completion of warehousing space was recorded in Klang Valley and Johor as of 1Q2023.

During the review period from 2016 and 2022, the warehousing space in Klang Valley and Johor recorded CAGR of 4.6% and 5.1% respectively.

In Klang Valley, Grade A warehouse space made up circa 7.5 million sq ft or 14.3% of the total estimated stock while in Johor, similar grade warehouse space accounts for circa 46.8% share or 7.2 million sq ft of the state's existing cumulative supply.

The year 2022 witnessed the completion of several notable facilities, namely the Ninja Van Malaysia warehouse in Shah Alam, Vinda Group South-East Asia (Vinda SEA) regional headquarters in Klang and Daikin regional distribution centre at Kota Elmina.

Figure 11:
Klang Valley and Johor – Estimated Supply of Warehouse Space, 2016 to 2023(f)



Source: Knight Frank Research
Note: (p) = Preliminary data; (f) = Forecast

Future Supply
It is estimated that there are some 1.9 million sq ft of incoming stock that are scheduled for completion in Klang Valley by the end of 2023, representing an increase of circa 3.6%.

Notable upcoming warehouses / distribution centres in Klang Valley include oMega warehouse by ALP and Symphony Warehouse in Shah Alam.

As for Johor Bahru, there are several warehouses / distribution centres currently under construction, notably the warehouse by Tiong Nam in the locality of Senai Airport City.

Demand and Occupancy Rate

We have selected a sampling of facilities / premises to gauge demand for warehousing space in Klang Valley and Johor Bahru.

Amid normalisation of all economic activities, the average occupancy rate in Klang Valley remained robust at 100%, fuelled by factors such as enhanced logistics infrastructure, growing freight volume, sustained growth in e-commerce, and favourable government policies (Figure 12)..

Similarly, in Johor, the average occupancy rate is estimated at 100% despite an increase in the surveyed lettable area to 8.8 million sq ft in 2022(p).

Rental Analysis

In 2022, the asking gross rentals for industrial properties in prime areas of Klang Valley ranged from RM1.40 to RM2.70 per sq ft per month, slightly higher than the asking rentals a year ago.

Detached industrial premises / facilities located in Petaling Jaya have a higher band of asking rental rates ranging from RM1.80 per sq ft to RM2.70 per sq ft per month while in other selected established industrial areas such as Subang Hi-Tech, Bukit Raja, Shah Alam and Glenmarie, the asking rental rates are in the similar band, ranging between RM1.60 per sq ft and RM2.40 per sq ft per month. Meanwhile, the premises / facilities in Port Klang command lower band of rental rates ranging from RM1.40 per sq ft to RM1.90 per sq ft per month.

In Johor Bahru, the asking rental rates are also marginally higher in 2022 compared to the previous year.

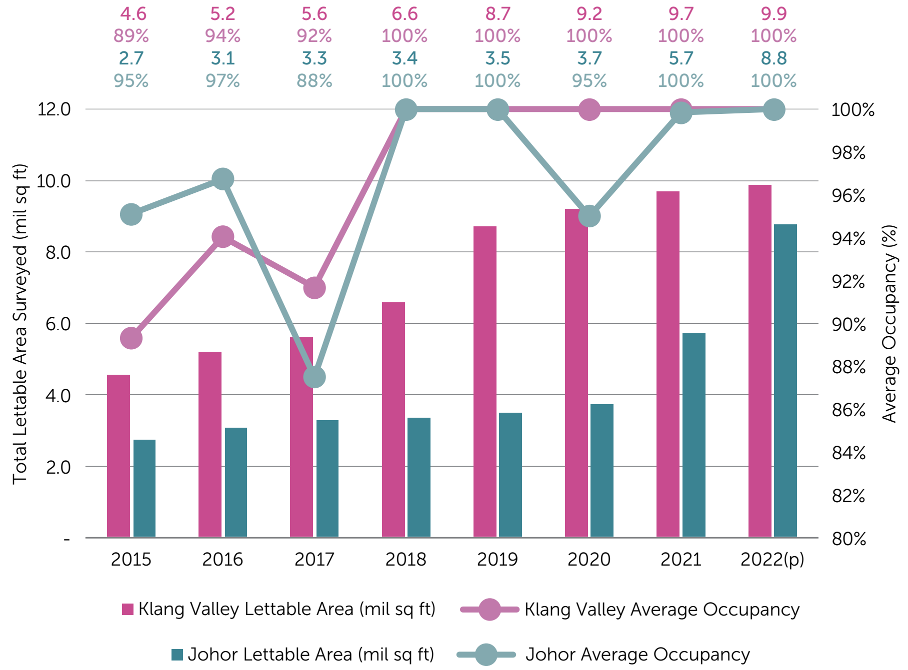
The asking rental rates of industrial properties in the localities of Port of Tanjung Pelepas, Pasir Gudang and Senai hovered between RM1.00 per sq ft and RM1.80 per sq ft per month.

SUMMARY & MARKET OUTLOOK

Malaysia's economy expanded 8.7% in 2022 (2021: 3.1%), supported by improvement in market conditions with continued policy support following the country's transition to the endemic phase on 1 April 2022. However, the fourth OPR interest rate hike in 2022, from 2.50% to 2.75% on 3 November 2022, amid increasing domestic and global inflationary pressures and ongoing geopolitical tensions may impede this growth trajectory.

Moving into 2023, Malaysia's gross domestic product (GDP) is expected to grow at circa 4.0%, backed by strong fundamentals and the country's diversified economic structure. Ongoing policy support will cushion the impact of the rising cost of living and mitigate the downside risks stemming from prolonged geopolitical uncertainties and tightening global financial conditions.

Figure 12:
Klang Valley and Johor – Weighted Average Occupancy Rates of Selected Warehouses / Distribution Centres Surveyed, 2015 to 2022(p)



Source: Knight Frank Research
Note: (p) = Preliminary data; (f) = Forecast

Table 2:
Selected Prime Industrial Areas in Klang Valley and Johor Bahru – Asking Rental Rates, 2021 and 2022

Region / Locality	Asking Gross Rental (RM per sq ft / month) 2021	2022
Klang Valley		
Petaling Jaya (Sections 13, 19 and 51A)	1.70 – 2.50	1.80 – 2.70
Subang Hi-Tech	1.50 – 2.10	1.60 – 2.30
Bukit Raja	1.60 – 2.20	1.70 – 2.30
Port Klang	1.30 – 1.80	1.40 – 1.90
Shah Alam	1.50 – 2.20	1.70 – 2.30
Glenmarie	1.50 – 1.80	1.70 – 2.40
Johor Bahru		
Port of Tanjung Pelepas	1.40 – 2.00	1.40 – 1.60
Pasir Gudang	1.20 – 1.50	1.00 – 1.50
Senai	1.00 – 1.50	1.20 – 1.80

Source: Knight Frank Research
Note: The above quoted rental values vary according to location / scheme, type and quality of premises, size and other value factors.

MALAYSIA
INDEPENDENT MARKET RESEARCH

The improving market is expected to persist into 2023, driven by strong enabling factors such as improved logistics infrastructure, increasing freight volumes, structural growth in e-commerce, and supportive government policies. Over the past year, the logistics industry has continued to perform strongly and this trend is expected to continue into 2023, with demand for logistics assets outpacing supply amid normalizing economic activities. The industrial property sector remains on an upward growth trajectory, with a steady pipeline of distribution and warehouse projects, driven by strong and steady demand from both logistics players and investors.

Under Budget 2023, which was re-tabled on 24 February 2023, there is an expansion of tax incentive for automation in manufacturing and services sectors. Only manufacturing companies are eligible for the existing Accelerated Capital Allowance (ACA) on the purchase of automation equipment while the expansion will include the agriculture sector as well.

Meanwhile, the scope of automation will include the adoption of Industry 4.0 elements. The capital expenditure threshold will be increased to RM10 million (previously RM2 million to RM4 million). This incentive is effective for applications received from 1 January 2023 to 31 December 2027.

To manage supply chain complexities, selected industries are adopting nearshoring as a strategy. The disruptions to the global supply chain caused by the COVID-19 pandemic and rising geopolitical tensions have prompted businesses to re-evaluate their strategies and consider whether a nearshoring hub could add value to their supply chain. Malaysia has emerged as a potential destination for these businesses, offering the right balance of cost, efficiency, and quality.

Moving forward, the e-commerce market is expected to continue expanding albeit at a slower pace following normalization of all economic sectors. Consumers have, however, become more cautious amid current market uncertainty. The new government is expected to take proactive measures to manage the cost-of-living crisis affecting households while promoting business growth.

The Selangor government launched its First Selangor Plan (RS-1) 2021-2025 in July, which covers four main areas: reinforcing economic growth, improving social inclusivity and society welfare, sustainability, as well as transformation towards modern, visionary, and people-oriented governance. The state government is expected to introduce various incentives to boost investments, focusing on selected industries such as life sciences, food and beverage manufacturing, electrical and electronics product manufacturing, machinery and equipment, as well as two new industries, logistics services and digital investment.

SOUTH KOREA

INDEPENDENT MARKET RESEARCH

By JLL Reseach

SOUTH KOREA ECONOMY

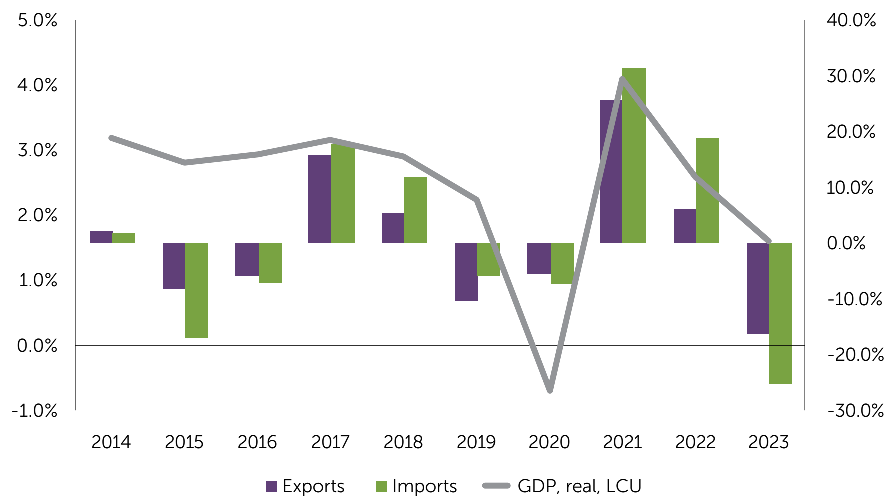
Amid the combination of global economic woes and a persistent slump in the semiconductor sector, which is the country's flagship export item, Korea's exports marked the sixth consecutive month of decline. In March 2023, exports moved down 13.6% y-o-y, registering USD 55.12 billion. Imports tumbled 6.4% y-o-y to USD 59.75 billion, resulting in a trade deficit of USD 4.62 billion in March. The trade balance has remained in the red for 13 months. South Korea's exports for the full year of 2022 recorded a 6.1% gain while annual imports increased by 18.9% y-o-y, resulting in a record trade deficit of USD 47.2 billion (Figure 1).

In January, the Bank of Korea ("BoK") raised the benchmark interest rate to 3.5%, up 25 bps. During the Monetary Policy Board meeting, the BoK forwent further rate hikes for the second straight time in February and April 2023, suggesting the current rate is sufficiently high. On the other hand, there is apprehension surrounding the rate freeze, which could be interpreted as prematurely dovish given the widening rate gap between policy interest rates in Korea and the US. Nonetheless, the burden on the BoK from a widening base-rate gap may be moderated to some extent due to the collapse of Silicon Valley Bank as well as a job market freeze that could encourage FOMC to slow down the rate hikes at its next meeting.

According to the BoK's latest economic forecast in February 2023, the GDP and CPI growth projections were revised to 1.6% and 3.5%, respectively. From 2H23, economic resilience is anticipated, aided by the recovery of China and the IT industry. Additionally, the stabilisation of oil prices will keep the 2023 CPI rate below the 2022 level.

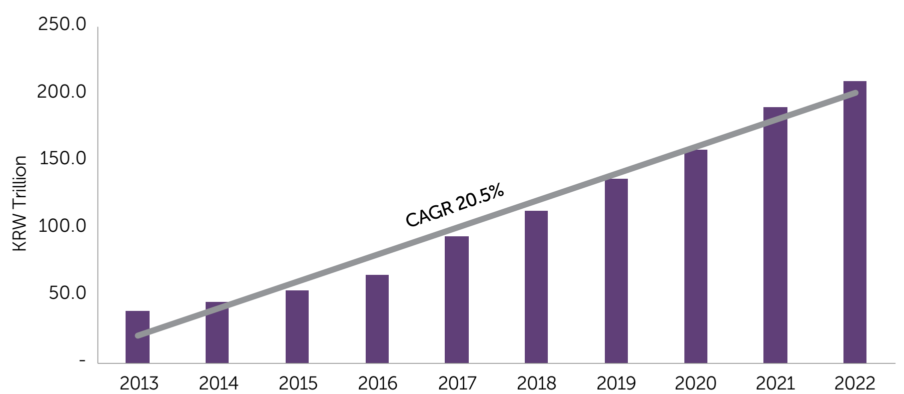
The KRW-dollar exchange rate fell to KRW 1,323 per USD in April 2023 from over KRW 1,400 in September 2022. The reason for the rising value of the Korean Won could be interpreted in multiple ways, such as lower-than-expected CPI growth in the US, and Japan now tweaking its bond yield control, which allows long-term interest rates to fluctuate more.

Figure 1:
Exports, Imports and GDP of Korea



Source : Statistics Korea, Oxford Economics, JLL Research

Figure 2:
Annual Sales of E-commerce



Source: KOSIS

SEOUL METROPOLITAN AREA LOGISTICS MARKET PERFORMANCE AND TRENDS

Demand

In 1Q23, overall net absorption reading in Seoul Metropolitan Area (SMA) was 930,555 sqm, staying in positive territory for an unbroken 19-quarter streak. Overall SMA annual net absorption for 2022 was 1,572,982 sqm on the back of buoyant leasing demand from local 3PL and e-commerce players. Within the stock covered by JLL, 3PL and e-commerce tenants accounted for around 55.7% and 16.5%, respectively, in existing centres as of 1Q23. This was followed by F&B which took up 6.3% as well as wholesale and retail which accounted for around 5.8%.

The e-commerce industry – a key demand driver – is still growing. The latest online shopping volume in February increased by 7.5% y-o-y aided by improvement in travel, transportation, F&B and e-coupon service categories. The annual e-commerce growth was 10.4% in 2022, bringing the compound annual growth rate (CAGR) for the

SOUTH KOREA
INDEPENDENT MARKET RESEARCH

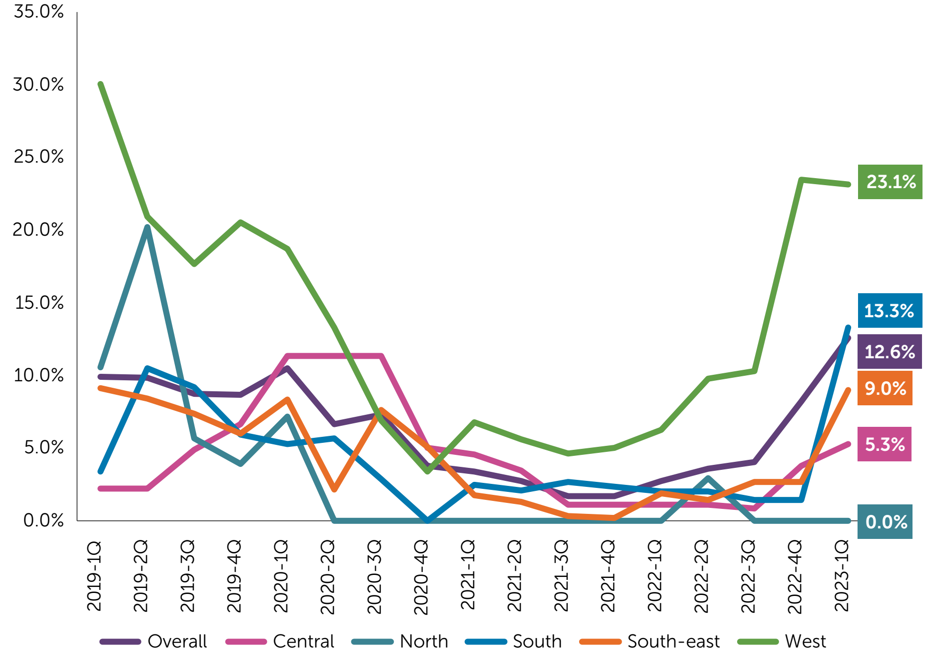
past ten years to 20.5% (Figure 2). Nevertheless, the demand from e-commerce players had softened compared to 1H22 while that of 3PL players remained bullish. Notably, Coupang slowed its expansion after incessantly signing new leases in the past couple of years which shook up Korea's logistics market landscape. Additionally, Market Kurly, a major e-grocery and delivery service platform, scrapped its IPO amid mounting concerns over economic downturn.

A slower leasing demand from key e-commerce market players particularly took a toll on cold storage demand. The cold storage grapples with numerous challenges such as a small lead pool of occupiers and large-scale supply pipeline. The dry storage demand held up well aided by local 3PL occupiers. The bifurcation between the dry and cold centres intensified, with vacant cold space attributing to the majority of SMA vacancies.

Concurrently, overall SMA vacancy rate in 1Q23 was 12.6%, up 438bps q-o-q. As there is abundance of recent completions, the vacancy rate rose due to unresolved vacancies in these centres. (Figure 3).

By sub-markets, the Central's vacancy rate marked 5.3% in 1Q23, up 153bps q-o-q as a new completion in Osan is partially vacant. The North boasted full occupancy for three quarters in a row. There are only five Grade A centres in the North which are all located in Goyang and Namyangju cities, sharing a border with Seoul. The vacancy rate of the South recorded at about 13.3%, a steep rise of about 1187bps q-o-q, due to introduction of four new completions in the quarter.

Figure 3:
SMA Vacancy Rates by Sub-markets



Source: JLL Research

In the South-east, 11 new centres were supplied this quarter, thereby lifting the vacancy rate from 2.7% to 9.0% q-o-q. Leasing activity stayed brisk particularly in new completions, with tenants from various industries such as cosmetics, 3PLs, F&B, fashion and retail signing leases. Lastly, the West's vacancy was 23.1% in 1Q23, down 34 bps q-o-q. The West was the only sub-market to see a drop in the vacancy rate over the quarter. The decline in the vacancy rate in the West is due to new tenants from e-commerce as well as wholesale and retail businesses moving into Cheongna Logistics Center, a mega-scale logistics center with GFA of 430,253 sqm which was completed last quarter. Meanwhile, there were also departures of several local 3PLs and e-commerce occupants as well.

Going forward, overall SMA is forecast to observe a healthy level of net absorption on the back of scheduled large-scale leases, particularly in new completions. In the meantime, vacancies are speculated to surge further with heaps of upcoming supply acting as a major headwind, reaching around 17.8%, 24.6% and 23.1% from 4Q23 to 4Q25, respectively.

Rents

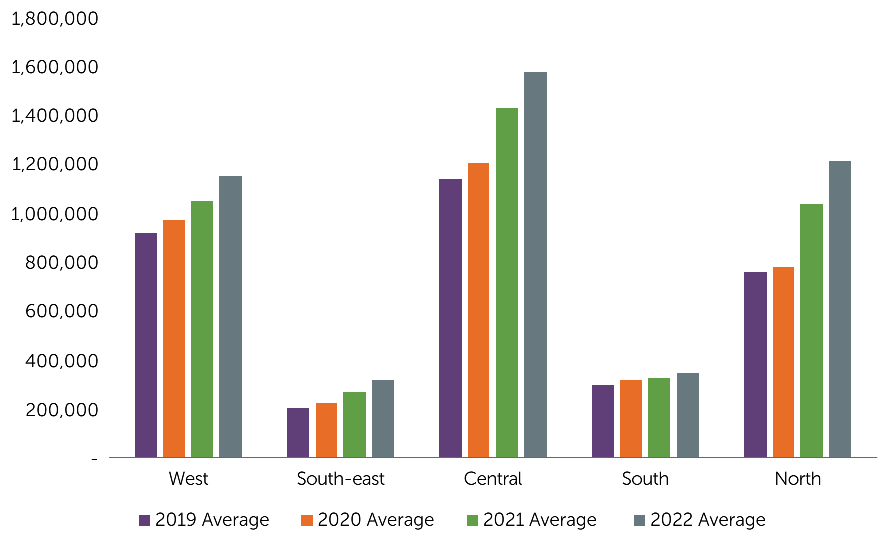
In 1Q23, overall SMA net rent reached KRW 10,162 per sqm per month, staying virtually flat q-o-q but up 5.1% y-o-y. The rent growth in existing centres was modest, increasing 1-2% annum. On the other hand, new completions spurred the rent growth. The latest construction cost index, a proxy to measure price fluctuations in direct construction cost over time, rose by 6.3% y-o-y. The cement index particularly saw the largest upsurge of 35.8% y-o-y. Moreover, the hourly minimum wage also went up from KRW 9,160 in 2022 to KRW 9,620 in 2023, pressuring developers.

Another factor pushing up development costs was the land value. The average land value of key Grade A logistics facilities in SMA spiked by 11.9% y-o-y (Figure 4). Hence, newer centres often command higher rents amid surging construction costs, labour shortage and supply chain disruptions.

On a yearly basis, all sub-markets witnessed positive rent growth (Figure 5). The Central's net rent was up 4.0% y-o-y, reaching KRW 10,601.

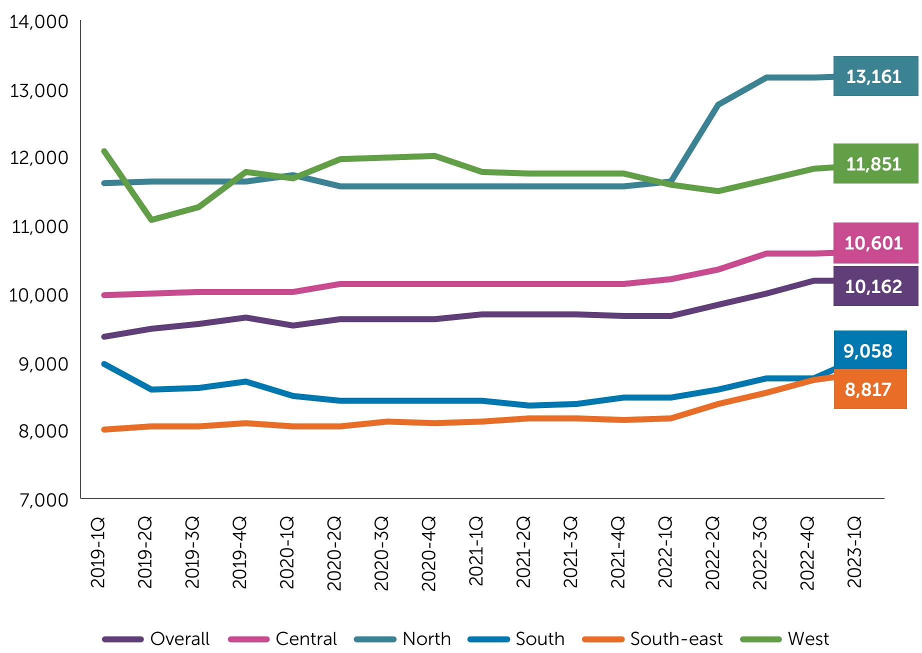
The sub-market has continuously demonstrated stable rent growth. The North's net rent in 1Q23 was KRW 13,161, up 13.2% y-o-y, boasting the sharpest annual rent growth in SMA. One new centre signed a lease with rents surpassing the sub-market's average by more than 30%, which contributed to substantial rent increase as there are only five Grade A facilities in the North. The annual rent growth in the South sub-market was 6.9%, bringing the rent level to KRW 9,058. In the South, existing centres have often raised rents at a set annual rate, while new centres generally have offered rents higher than the market average. Net rent of the South-east posted KRW 8,817 which was up 7.9% y-o-y. As the sub-market is perceived as the 'CBD' of SMA due to its locational advantage, its rent growth could outstrip that of the South's going forward. In the West, net rent rose marginally by 2.3% y-o-y, reaching KRW 11,851 in 1Q23. The modest rent growth was due to recent large-scale new supplies in Incheon. As centres in

Figure 4:
2019-2022 Average Land Value by Sub-markets



Source : Ministry of Land, Infrastructure and Transport, JLL Research
* Officially assessed land value of key logistics facilities (average) in major sub-markets in Seoul Metropolitan Area
* Unit: KRW/sqm

Figure 5:
SMA Net Rents by Sub-markets



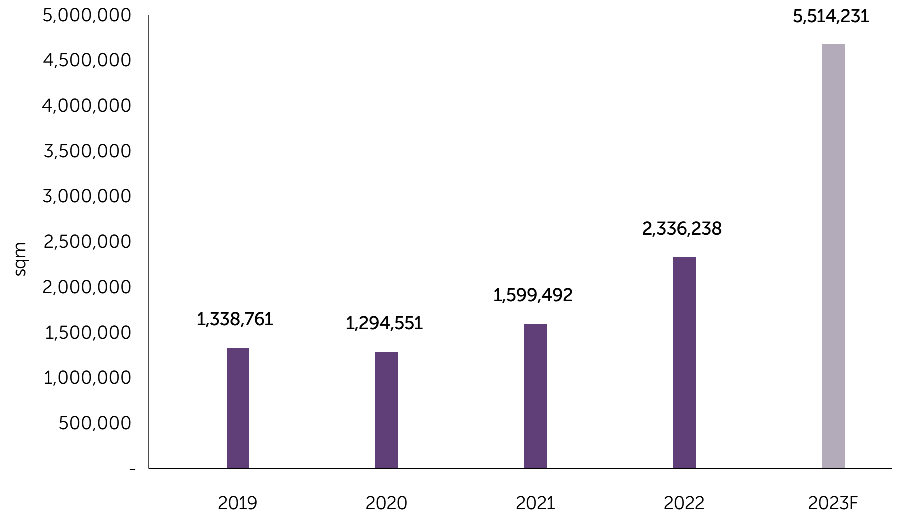
Source : JLL Research
* 1F dry storage logistics facilities based on GFA
* Unit: KRW/sqm/month

SOUTH KOREA
INDEPENDENT MARKET RESEARCH

Incheon have lower rents compared to other cities such as Gimpo and Bucheon in the West, the larger proportion of Incheon stock dragged down the sub-market's weighted average rent.

Going into end-2023, overall SMA rents could reverse course and demonstrate negative growth. Upcoming centres are scheduled to be introduced to more fringe locations, which are likely to possess lower rents than the market average. Nonetheless, the dry storage rents are under more favourable conditions compared to the cold storage rents backed by robust demand, as seen in consistent pre-leases. Hence, the rent discrepancies between dry and cold could shrink to some extent. Another noteworthy takeaway is that there is a growing number of landlords raising their outgoing fees to offset inflationary pressure. Given that the current outgoing fees received are insufficient to cover OPEX, some centres lifted outgoing fees by an extra 25-50% from the current level.

Figure 6:
Annual Constructions of Grade A Logistics Centres in SMA



Source : Ministry of Land, Infrastructure and Transport, JLL Research
* Includes JLL-defined Grade A logistics properties which exclude pure cold centres

Supply

In 1Q23, a total of 19 Grade A leasable centers were completed in SMA. The centers whose supply was delayed last year were completed in large quantities at the beginning of the year. A total of about 1,611,354 sqm of new area was supplied, excluding owner-occupied centres.

In 2022, 30 new Grade A leasable logistics centres were introduced in SMA, with grand total GFA amounting to around 2,336,238 sqm (Figure 6). Notably, Cheongna Logistics Center in Incheon was completed in 4Q22, which was the largest logistics centre in Korea as a single asset with GFA of 430,253 sqm. This centre alone accounted for about 18.4% of new constructions in 2022.

A substantial supply growth is anticipated going forward, given numerous ongoing constructions in all sub-markets. The construction delays also attributed to a heavy chunk of 2023's supply. Construction delays and failures are frequently observed due to various reasons, such as surging construction material costs, muted project financing market, mounting concerns over a potential supply glut and softened sentiment towards cold storage. Thus, new supply volume in 2022 was far less than initially estimated. For instance, there were 90 new Grade A permits in 2021, and 31 of them began construction in the same year. However, amongst the 101 projects that obtained construction permits in 2022, only 16 of them started construction, underscoring the high volatility of future supply projections. In other words, despite numerous construction permits obtained in the last couple of years, construction of a number of projects may not even begin.

Furthermore, there will be a growing number of developers struggling with financing and finding prospective tenants. As the market shifts towards a tenant-favoured environment, potential occupiers will be very selective in seeking new leasable space. Therefore, developers may re-evaluate feasibility studies for projects in inferior locations even after obtaining construction approvals.

New constructions underway will be concentrated in the South-east, the West and the South sub-markets (Table 1). From 2Q23 to 4Q23, the speculated total GFA is 3,073,135 sqm. The majority of upcoming supply is forecast in the West (35%), the South (31%) and the South-east (29%). Including the 1Q23 new supply, the expected grand total GFA for 2023 will be 4,684,489 sqm, which is about 829,742 sqm lower than the previous quarter's forecast and can be explained by construction delays and failures. While upcoming supply slated for completion in 2023 Q2-Q4 has already commenced construction, some projects are still likely to be completed later than initially planned.

Capital Market

In 1Q23, the overall logistics transaction volume reached KRW 788.6 billion, increased by 9.2% q-o-q and down by 59.0% y-o-y. There were only four transactions with sales prices of KRW 100 billion or higher. In the meantime, the annual logistics transaction volume nationwide recorded KRW 5.7 trillion in 2022.

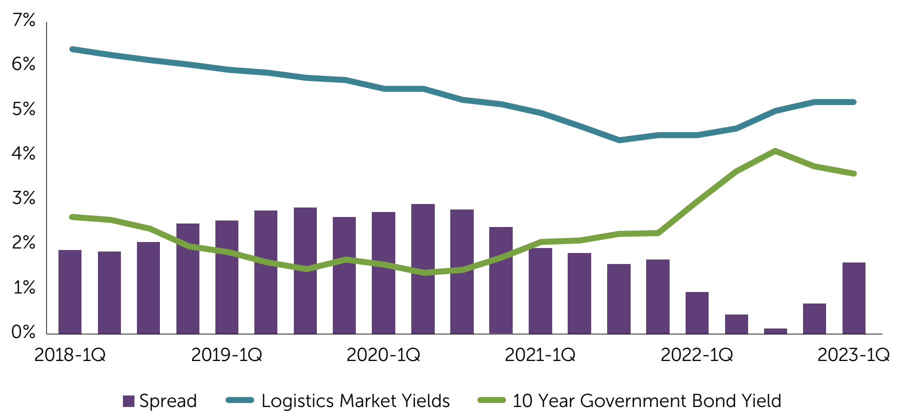
The weakness in financial markets coupled with lingering market challenges led to a sharp contraction in transaction volume. Aligned with the BoK's hawkish monetary policy, the cost of debt rose substantially in the past year. The surging borrowing costs as well as difficulty in equity funding took a toll on Korea's commercial real estate market across all sectors, thereby decompressing market yields since 2022 (Figure 7). However, the logistics market yield in 1Q23 stayed flat q-o-q, recording 5.2% as no noteworthy changes occurred during the quarter.

Table 1:
Major Developments Underway in 2023 Q2-Q4

Sub-market	Location	Project name	GFA (sqm)	Landlord
West	Incheon	Seoknam Innovation Logistics Center	299,247	Pacific Asset Management (KKR)
South	Pyeongtaek	Poseung Logistics Center	187,496	Kendall Square
West	Incheon	S&K Complex Logistics Center	148,572	Seoknam Logistics
South	Pyeongtaek	R&R Logistics Center	141,985	R&R Logistics
West	Incheon	Dream Logistics Center	133,327	Dream Remicon
South-east	Yeoju	Logispoint Yeoju Center	130,931	Mastern Investment Management
West	Incheon	Wonchang-dong Logistics Center	125,428	AEW
West	Gimpo	MQ Gumdan Logistics Center	112,076	MQ Logistics
West	Siheung	Jeongwang-dong 1292-5 Logistics Center	87,301	Siheung One&One Smart Logistics PFV

Source : JLL Research

Figure 7:
SMA Grade A Logistics Market Yield



Source: Statistics Korea, Oxford Economics, JLL Research

SOUTH KOREA
INDEPENDENT MARKET RESEARCH

Instead of injecting fresh capital into new transactions, investors will focus more on refinancing existing portfolios, which imply the overall transaction volume could dip further. While doing so, there could be desperate sellers having to dispose of assets at discounted prices due to issues related but not limited to fund maturity, refinancing failures and specific request for an exit from their end investors. Meanwhile, lenders reduced loan proceeds and now require higher reserve to protect themselves, thereby reducing the borrowers' leveraged returns. It is even more concerning for developers without pre-leasing commitments or forward-sale agreements. Investors will scrutinise properties with a high proportion of cold space in a cautious manner given the weaker demand and the supply glut. The transaction volume is speculated to remain subdued amid a growing number of deal failures.

Looking on the bright side, logistics centres continue to attract investors' attention as the sector has demonstrated strong market performance in the last few years. Furthermore, large-scale new developments underway will provide abundant investable options. Investors will gauge investment opportunities on a selective basis and a higher proportion of foreign investment is expected as domestic institutional investors grapple with tight liquidity. Also, for logistics properties in core locations, investors could use lower leverage or combine debts with fixed- and floating-interest rates. Investor sentiment for dry storage with credible tenants is expected to remain bullish.

VIETNAM
INDEPENDENT MARKET RESEARCH

By JLL Reseach

VIETNAM WAREHOUSE MARKET OVERVIEW AND OUTLOOK

Macroeconomic Overview

Vietnam has widely been regarded as an attractive investment destination. Favourable government policies, combined with emerging middle class and continuous institutional reforms, have made it a standout performer in South – East Asia. Specifically, the country's property market is backed by various key socioeconomic fundamentals:

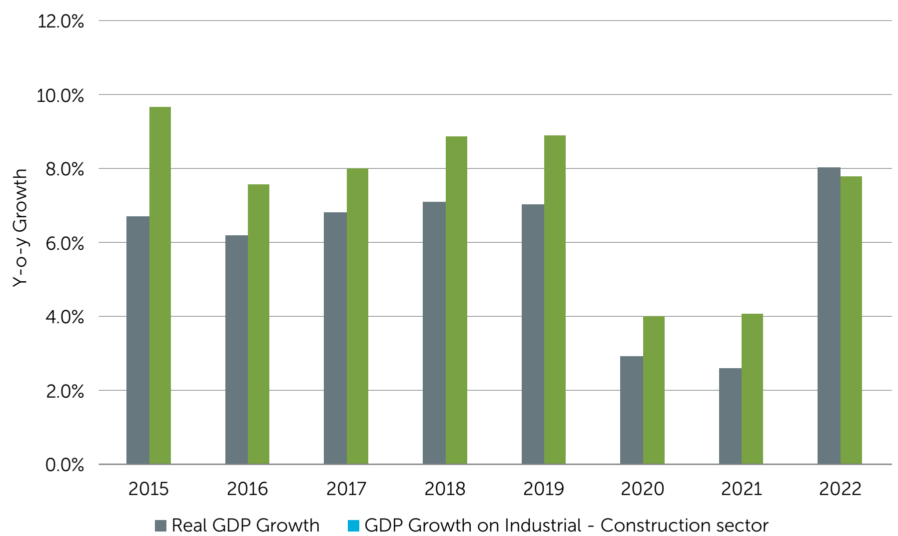
Increasing integration into global economy: Vietnam is considered one of the Asian economies most open to international trade. Its participation in the WTO and the most recently ratified CPTPP underpins the country's impressive trade results over the past two decades and puts Vietnam ahead of its goal of balancing trade by 2025.

Improved business environment, including drastically reforming business conditions and simplifying administrative procedures: The Directive 08/CT-TTg dated March 13, 2018 cuts down one third of the time consumed for granting construction permits and other related administrative procedures.

Strong spending on infrastructure: Vietnam spends 5.8% of its GDP on infrastructure, the highest level in SEA and the second highest in terms of total spending on transport infrastructure.

Favourable demographic landscape: Golden population structure with 77% of the total population aged 15 or older, urbanization and the rise of the middle class will support the momentum of economic growth in the next 10 years.

Figure 1:
Vietnam GDP Growth Rate



Source: Vietnam General Statistics Office

From 2015-2019, Vietnam's GDP witnessed spectacular average growth of around 6.76% per year, higher than the average growth of the 2010-2014 period, which was 5.93% per year (Figure 1). The growth of the economy in 2015-2019 was driven by the industrial-construction sector with an average increase of 8.59% per year, which accounted for around 35% of total GDP. The structure of the Vietnamese economy is undergoing a positive change towards industrialization and modernization, along with the decline of the agriculture sector and the rise of industry and services.

During 2020 – 2021, due to the lingering effects of the Covid-19 epidemic, Vietnam's GDP growth slowed to 2.9% and 2.6%, respectively, but the industrial-construction sector continued to show momentum with a growth rate of 4% per year. Thanks to Resolution No. 01/NQ-CP, Resolution No. 02/NQ-CP, and Resolution No. 11/NQ-CP on Socio-economic Recovery and Development Program by the Prime Ministry, GDP in 2022 increased sharply by 8.02% y-o-y. The processing and manufacturing industry was the growth engine of the economy with a growth rate of 8.1%.

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Vietnam's import and export turnover has continuously posted new highs over the last decade, rising from just USD 200 billion in 2011 to USD 732 billion in 2022, 3.7 times higher than 2011 levels (Figure 2). The trade balance has also rapidly shifted, from a trade deficit of nearly USD 10 billion in 2011 to trade surpluses of USD 20 billion in 2020 and USD 21 billion in 2022. Over the same period, the structure of Vietnam's export goods has changed from labour-intensive and heavy industries to high-tech commodity groups such as phones, computers, and machinery.

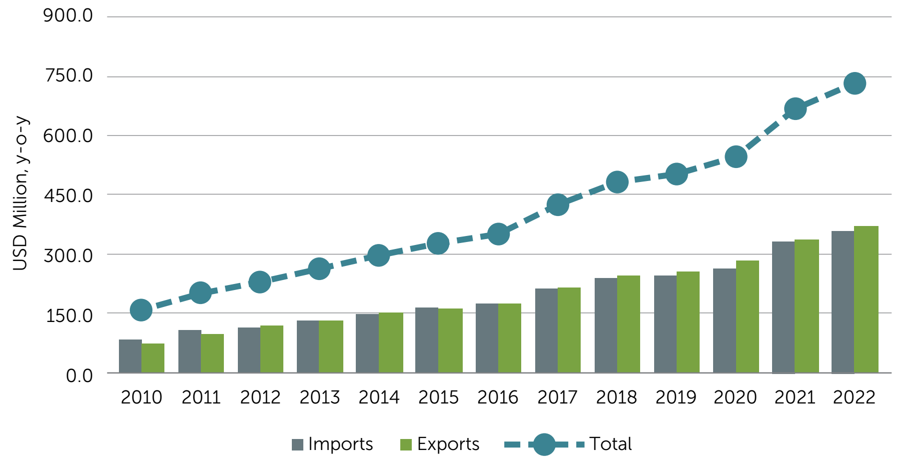
Merchandise export turnover in 2022 was estimated at USD 371.85 billion, increasing by 10.6% y-o-y. Import turnover was estimated at USD 360.65 billion, up 8.4% y-o-y. However, export turnover in 4Q22 decreased by 6.1% y-o-y and import turnover decreased by 3.9% y-o-y and these challenges may persist in the first half of 2023.

In 2022, total FDI reached USD 27.72 billion, down 11% y-o-y. Although newly registered capital decreased by 18.4% y-o-y due to foreign investors' concerns about political and economic instability, the number of newly registered projects increased by 17.1% y-o-y, and adjusted investment capital also increased by 12.2% y-o-y. This shows that foreign investors still put their faith in Vietnam's economy and investment environment, and continued to expand investment in existing projects.

Regarding FDI capital by sector, the processing and manufacturing industry continued to take the lead with a total investment of more than 16.8 billion USD, accounting for 60.6% of total registered investment capital in 2022. Korea was the biggest FDI investor in Vietnam with 20.4% of newly registered projects.

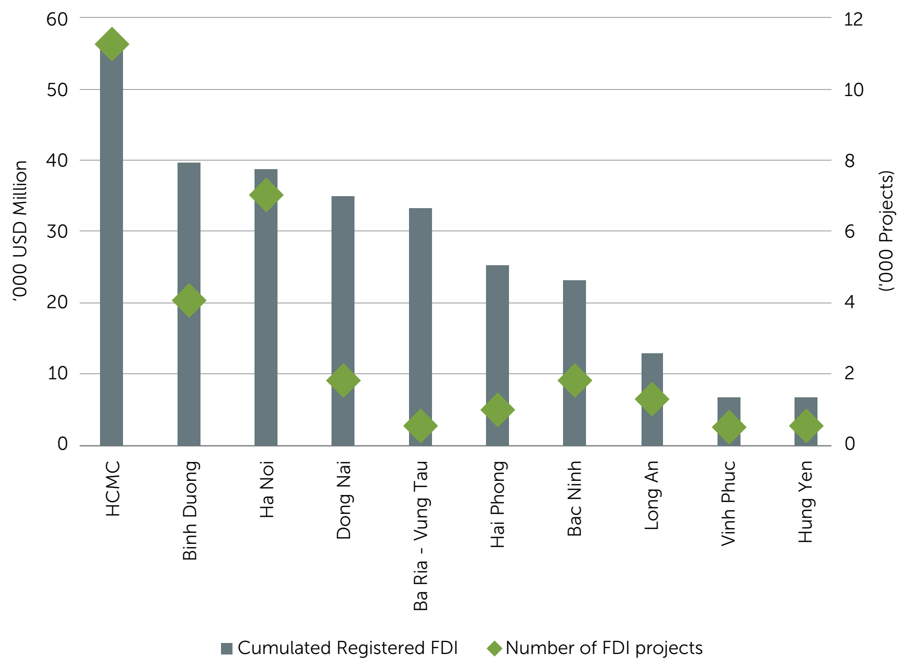
Foreign investors invested in 54 provinces and cities across the country in 2022, of which, Ho Chi Minh City attracted the highest investment capital of 3.94 billion USD, accounting for 14.2% of total FDI in 2022 (Figure 3). By 2022, HCMC attracted around 55.8 billion USD of foreign investment. Binh Duong and Hanoi followed with around 39 billion USD of foreign investment capital.

Figure 2:
Vietnam Exports & Imports Trade Volumes



Source: Vietnam General Statistics Office

Figure 3:
FDI Into Vietnam by Province 2022 (Cumulated)



Source: Ministry of Planning and Investment

Vietnam Warehouse Market

Successful containment of the 4th COVID-19 outbreak since 4Q21, together with the restoration of international flights to Vietnam in early 2022, has allowed ready-built warehouse (RBW) developers to restart construction and kick off new projects. The total supply of warehouse facilities therefore increased significantly to 5.7 million sqm, of which more than 1.2 million sqm of new space was completed in 2022 across the country. The new projects recorded were not only continued expansions by existing developers, such as BWID, Mapletree, Daiwa House, BKIM, nPL Logistics and Kerry Logistics, but they also marked the official presence of new entrants to the Vietnam Logistics market - namely SLP, Frasers Property, LOGOS, Emergent Capital Partners, and Logis United. The entry of experienced investors has raised the project quality on the market, as demonstrated by Modern supply going from 19% of total stock in 2018 to nearly 50% by the end of 2022. The penetration of institutional developers also witnessed significant growth from 14% to 24% during the same period.

This Vietnam market report covers the tier-I provinces of the North and the South, i.e., Hanoi, Bac Ninh, Hung Yen, Hai Phong, and Vinh Phuc (hereby called the North), HCMC, Binh Duong, Dong Nai, Long An, and Ba Ria Vung Tau (hereby called the South). The logistics market in the South is nearly three times larger than in the North. The Southern region also welcomed the first wave of RBW development and was selected as the initial entry market for most institutional players. Meanwhile, the North has recently caught the attention of high-profile warehouse developers with many projects in the pipeline. It can be assessed that the development of the infrastructure system in the North generates more favorable conditions for investors to seek opportunities in new areas away from the hubs, whereas the options in the South are limited due to its less developed transport system.

The reopened economy and flexible adaption to COVID-19 have driven the recovery of FDI and domestics consumption. The demand for logistics space in the beginning of 2022 therefore bounced back owing to the rapid expansion of 3PLs, e-commerce companies as well as the entry of new retailers and manufacturers into Vietnam. Domestic demand remained resilient through the end of 2022 whilst cross-border activities have seen a decline. The possibility of recession in the US, rising inflation and interest rate hikes have dampened consumer spending and reduced export volumes. The logistics space occupied by manufacturers, especially SMEs, has decreased slightly due to production slowdown.

The Vietnam logistics market sustained buoyant sentiment in 2022, primarily underpinned by domestic consumption and built-to-suit demand. The RBW occupancy rates in the Northern and Southern areas both stood at 87%. Average asking rents also saw growth reaching USD 4.53 per sqm per month in the North and USD 4.25 per sqm per month in the South, exhibiting an increase of 7% and 8% y-o-y.

Logistics Investment Market

The logistics investment market was relatively vibrant especially throughout the first half of 2022, with several notable transactions recorded from international names aiming to expand their portfolios and divest stabilized assets. (Table 1 & Table 2)

Land acquisitions for new development mostly took place in emerging areas (e.g., Long An province in the South), thanks to the available land bank. Meanwhile, core areas are entering a mature stage, whereby the secondary market is starting to be more active with operating asset transactions.

Market Outlook

In 2023, new RBW facilities are continuously set to enter the market, totalling approximately 1.4 million sqm across the markets. Given this, 2023 market size will reach roughly 7.1 million sqm, a 1.3-fold increase over the current level. The majority of new supply will come from existing players, with the exception of JD Property and Indochina Kajima, which plan to establish their first presence in the Vietnam logistics market.

Abundant supply is forecast to put pressure on the supply side, and the market is becoming more favourable to tenants. In the face of global headwinds, warehouses located in production hubs serving cross-border trade, or areas more than 1-1.5 hours driving time from the city centre might find it challenging to fill their spaces. Subsequently, although headline rents are unlikely to change notably, significant incentives, typically in the form of longer rent-free periods, will be provided to attract tenants. Moreover, landlords may consider short-term (i.e., less than one year) contracts to improve the occupancy of newly completed projects.

In the near term, the market is expected to be mainly reliant on domestic demand, where retailers, e-commerce and 3PLs are expected to play a pivotal role in maintaining the market dynamics. Simultaneously, robust international trade raises RBW demand from manufacturers, particularly those in the garment, furniture, and electronics industries, to store their finished products.

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PROVINCIAL WAREHOUSE MARKET OVERVIEW AND OUTLOOK

Binh Duong Warehouse Market Overview

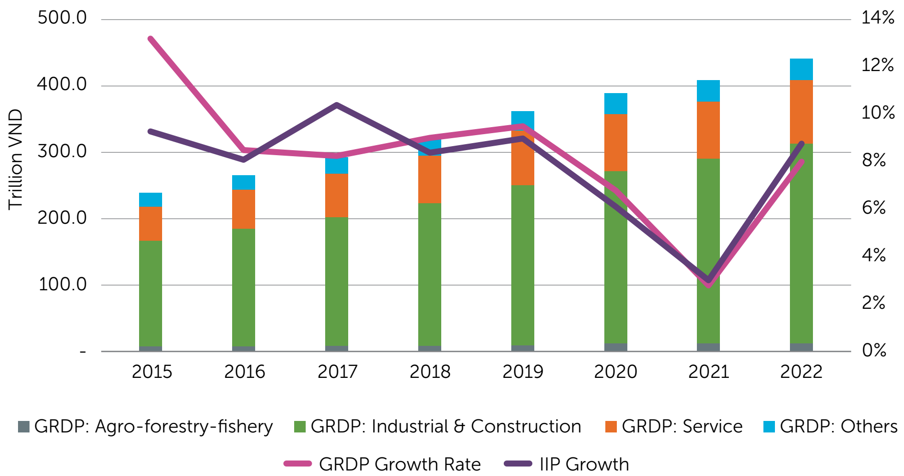
Macroeconomic Overview
In 1997, Binh Duong was an agricultural province where the agriculture-forestry-fishery sector accounted for 25% of gross regional domestic product (GRDP). Now, its economic structure has leaned completely towards the industrial-construction sector, which accounted for 68% of total GRDP in 2022, while the agriculture-forestry-fishery sector decreased to only 3% (Figure 4).

The development of concentrated industrial zones and clusters, especially the construction of the Industrial - Service - Urban Complex, has caused the province's industrial sector to continue to develop strongly. In the 2015-2022 period, Binh Duong's IIP grew by an average of 7.9% per annum, higher than the country's average of 7.5%. In 2022, the province's IIP increased by 8.77% y-o-y, lower than the pre-Covid level due to the slowdown in exports in 2H22.

Thanks to the strong industrial development, in 2015-2019, the average GRDP growth in Binh Duong was 9.7% per annum. Binh Duong was also one of the few provinces in the South that achieved positive GRDP growth during Covid times. Even from a high growth base, the province's GRDP increased by 8.01% y-o-y in 2022, bringing its economy size to 441.6 trillion VND, accounting for 4.64% of Vietnam GDP.

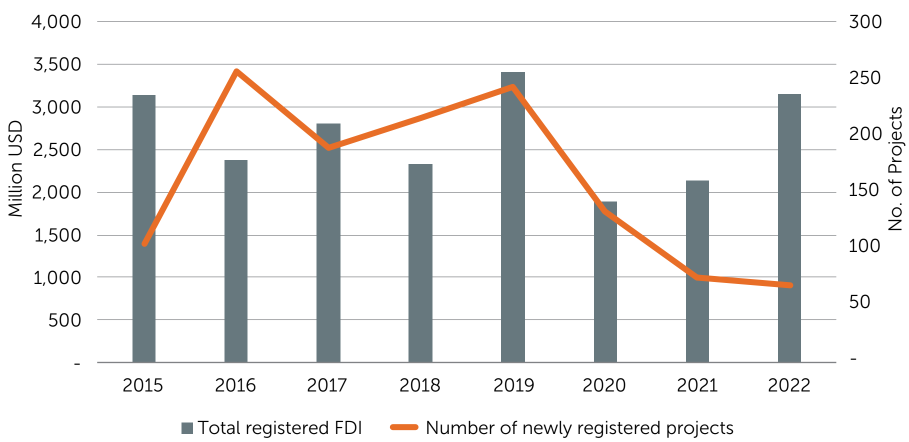
From 2015 up to now, thanks to its favourable geographical position and open investment environment, Binh Duong has ranked in the top 5 provinces which attracted the highest amount of FDI, averaging around 2.6 billion USD of foreign investment each year (Figure 5). By the end of 2022, Binh Duong received over 39.6 billion USD of FDI, ranking 2nd country-wide with some notable FDI projects such as the LEGO factory, Polytex Far Eastern factory, and Harvard Garden urban area.

Figure 4:
Binh Duong GRDP (current prices), GRDP Growth and IIP Growth by Year



Source: Binh Duong Statistics Office

Figure 5:
FDI into Binh Duong by Year



Source: Ministry of Planning and Investment

In 2022, total FDI capital in Binh Duong was 3.14 billion USD, 47% higher than in 2021. Within this, newly registered capital was 1.9 billion USD, increasing by 61% y-o-y. By investment sector, the processing and manufacturing industry attracted the most FDI capital at around 2 billion USD, accounting for 63.38% of total FDI in 2022. Denmark was the biggest investor with a total investment capital of 1.3 billion USD, most of which was from the LEGO factory project in VSIP III.

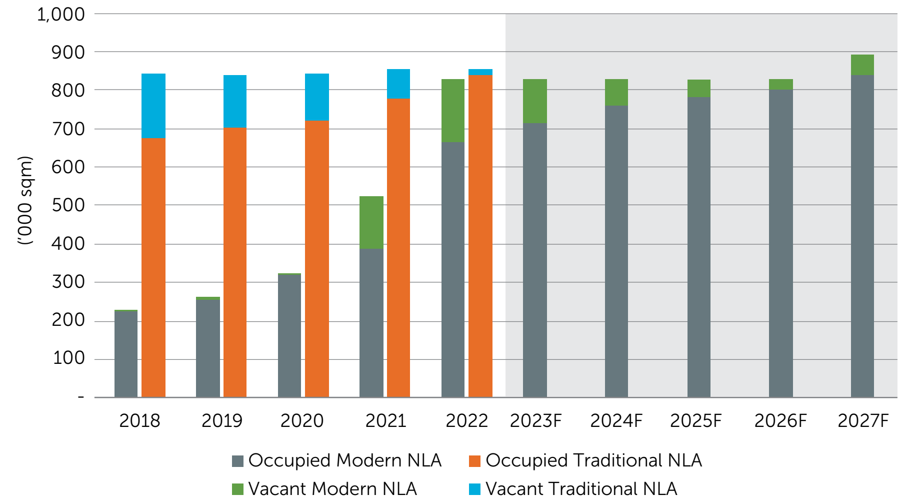
Infrastructure Development

Binh Duong has become a highly attractive destination for foreign investments, thanks to its rapid infrastructure improvements and the availability of land for both local and international enterprises. The province's transportation network primarily relies on land and waterway transport, which are vital for regional connectivity. Although Binh Duong lacks an airport, its proximity to Tan Son Nhat International Airport via road networks ensures easy access. The province boasts two ports on the Dong Nai River—Binh Duong Port and the Thanh Phuoc transit terminal (phase 1)—which facilitate cargo and container handling for import-export activities. These ports play a crucial role in the growth of the supply chain and logistics services between Binh Duong and the Southern provinces.

The government of Binh Duong province has allocated nearly 5.1% of its yearly financial resources to bolstering infrastructure, resulting in significant progress throughout the region. One key future accomplishment is the HCMC - Chon Thanh Highway, which extends over 68.7 km and drastically shortens travel times between HCMC and Binh Duong province. In addition, the construction of the 99-km Ring Road 4, which is linked to Binh Duong territory, has been crucial in enhancing regional connectivity and reducing traffic bottlenecks.

Over the past decade, the land transportation system connecting Binh Duong to other southern areas has experienced significant development. Key roads, such as National Road No. 1A and 1K, provide efficient transport networks linking airports and port clusters in HCMC, Dong Nai, and Ba Ria-Vung Tau. The Ministry of Transport plans to construct Ring Road No. 3 and No. 4 across Binh Duong, Dong Nai, Long An, and Ba Ria-Vung Tau during the 2020-25 period to alleviate traffic congestion and shorten distances between connected regions. Furthermore, the Binh Duong Authority intends to reduce the number of BOT fee stations within the province and upgrade additional provincial roads, such as DT746, DT747, and DT742, to six-lane roads with a total investment of approximately VND 1,500 billion (USD 64.2 million).

Figure 6:
Binh Duong Warehouse Market Supply



Source: JLL Research

In terms of railway transport, Binh Duong is home to two rail stations—Di An and Song Than—located in Di An District. These railroads cater to cargo and passenger transport, offering affordable train services on medium-distance routes. The continuous enhancement of the province's transport infrastructure undoubtedly contributes to Binh Duong's appeal as a prime investment location, promoting economic growth and development in the region.

Warehouse Market

As of 2022, among 5 tier-I provinces of the South, Binh Duong topped the region in terms of total supply with nearly 1.7 million sqm. Between 2018 and 2022, the Modern segment expanded at a rapid CAGR of 38%. The proportion of Modern supply rose from just 21% in 2018 to nearly 50% of total stock by the end of 2022. Conversely, Traditional warehouse supply has been almost stable at around 855,000 sqm over the same period (Figure 6). Considered as one of the first established industrial centers in the South, Binh Duong has always been prioritized as a place for developers to implement their logistics projects, particularly institutional ones. Specifically, in 2022, Binh Duong's RBW market recorded over 260,000 sqm of new supply, all of which are Modern grade and developed by international names such as Yusen Logistics, Mapletree, Frasers Property, BWID, and Emergent Capital Partners. However, the logistics supply in Binh Duong is forecast to stabilise from 2023 onwards with only 70,000 sqm of RBW expected to be completed by 2027 due to the limited available land bank.

The Traditional RBW segment has shown steady growth in occupancy rates and was almost fully occupied by the end of 2022, backed by strong demand for properties in good locations and steady supply. In contrast, the Modern segment

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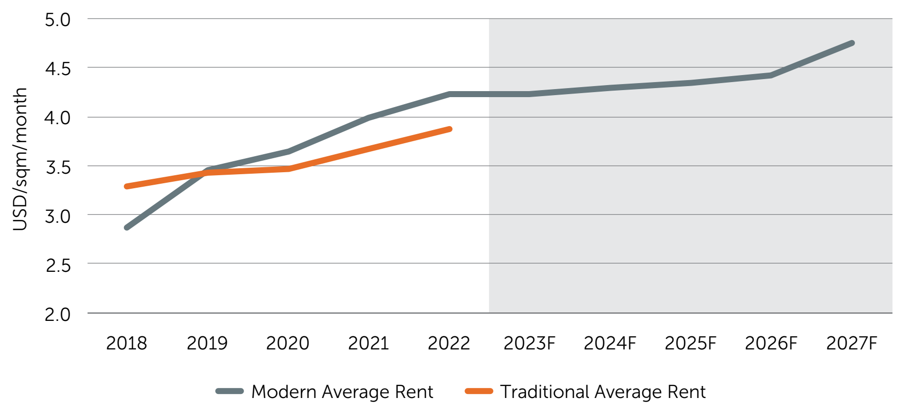
has experienced significant fluctuations in occupancy rates, particularly in 2021 when it decreased to 74%, owing to the launches of new projects developed by BWID in the Thu Dau Mot and Ben Cat areas. However, the Modern market has quickly recovered and reached 80% occupancy rate as of 4Q22, driven by strong market sentiment towards new high-quality projects located in prime locations such as Emergent, BWID, and Yusen Logistics in Tan Dong Hiep B IP, Di An. Thanks to its proximity to HCMC and surrounding production bases, Binh Duong attracts strong demand not only for the domestic market but also for cross-border activities. Sustained supply is expected to enhance asset performance over the 2023-2027 period. Notably, Modern occupancy rate is forecast to increase by an average of 3% per annum.

Overall, the RBW average asking rent in Binh Duong has increased steadily in both Modern and Traditional segments, at CAGRs of 10% and 4% over the 2018-22 period, respectively. The low base rent of Modern warehouses in 2018 was driven by competitive rents offered by early developments. On the other hand, Traditional facilities achieved higher asking rents in the 2018-2020 period, mainly driven by warehouses located in the core logistics areas, i.e., Di An and Thuan An districts. The continued entry of institutional developers with higher specifications projects has propelled Modern rents to USD 4.23 per sqm per month by the end of 2022, 9% higher than the Traditional segment (Figure 7). Modern grade rents range from USD 3.0 per sqm per month to USD 6.5 per sqm per month, with the highest rental rates being offered in Di An and Thuan An. Meanwhile, moving further to the North

Figure 7:
Binh Duong Warehouse Market Performance



Source: JLL Research

of Binh Duong (i.e., Thu Dau Mot, Ben Cat), the asking rents fluctuate around USD 3.0 – 4.5 per sqm per month, equal to two thirds of the core areas' rent. Stable supply, coupled with the penetration of institutional developers, has facilitated the average rent of Modern RBW to continue rising by around 2% per annum, and possibly to reach USD 4.75 per sqm per month by 2027.

Market Outlook

The Binh Duong logistics market has been moderately expanding further to the North, as land bank in core areas become restricted. Emerging areas such as Thu Dau Mot, Ben Cat, and Tan Uyen have more favorable conditions to accommodate large-scale developments. However, it might take time for the spill-over effect from the demand side to reach emerging areas since these locations primarily serve existing manufacturers or 3PLs for cross-border activities. Meanwhile, despite the higher rental rates, projects in key areas are favoured by tenants operating in the domestic and international markets. In particular, retailers, e-commerce companies, and 3PLs serving domestic market tend to seek Modern facilities in prime locations for efficient operations.

In the near future, the Binh Duong RBW market is forecast to enter a mature stage, where growth and asset performance stabilizes. There is not much room for new developments owing to scarce logistics land bank. Instead, landlords might consider redeveloping existing projects to Modern specifications in order to capture the increasingly sophisticated needs of tenants. Besides, better customer services provided at reasonable rates are differentiators to attract occupiers and enhance the competitive advantages of properties, especially those located in emerging areas.

Bac Ninh Warehouse Market Overview

Macroeconomic Overview

As one of the growth pillars of the Capital Region and the Northern Key Economic Region, industrial-construction has accounted for over 75% of Bac Ninh province's GRDP from 2015 to present (Figure 8). By 2022, Bac Ninh's economy size was around 240 trillion VND, accounting for around 2.6% of total GDP.

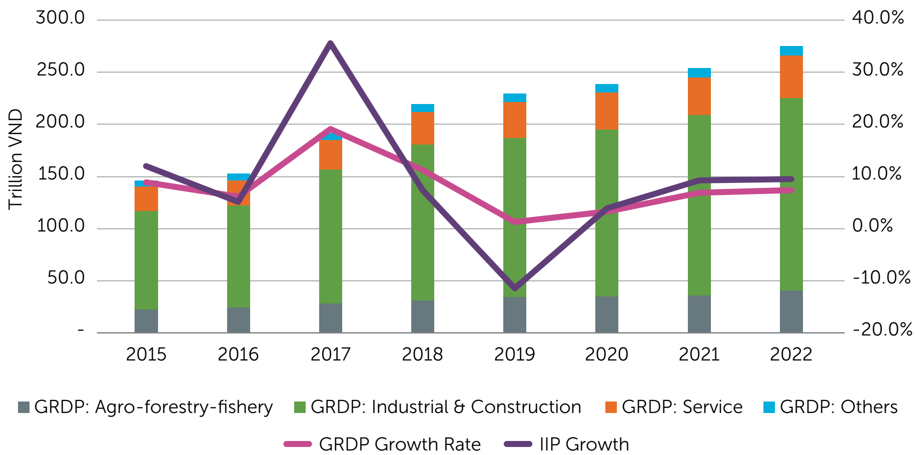
Regarding the industrial production index, Bac Ninh's IIP has grown by 9.5% y-o-y in 2022 and averaged 8.9% per year in the 2015-2022 period despite difficulties in 2019-2020 due to the Covid-19 pandemic. This growth was achieved thanks to the high-tech manufacturing industry, which has become a spearhead economic sector, turning Bac Ninh into the center of Vietnam's electronics and high-tech industries.

As one of the leading manufacturing provinces, Bac Ninh achieved a high GRDP growth of 7.39% y-o-y in 2022. On average, in the 2015-2022 period, its GRDP growth was 8.05%, higher than the country's average.

To attract investors, Bac Ninh has focused on improving the investment environment by prioritizing projects using less land and less labour with high investment rates, high budget contribution and high technology content. By end of 2022, Bac Ninh received around 23.2 billion USD of FDI, and was ranked 7th country-wide with some notable FDI projects such as the factories of Samsung, Canon, and Foxconn (Figure 9).

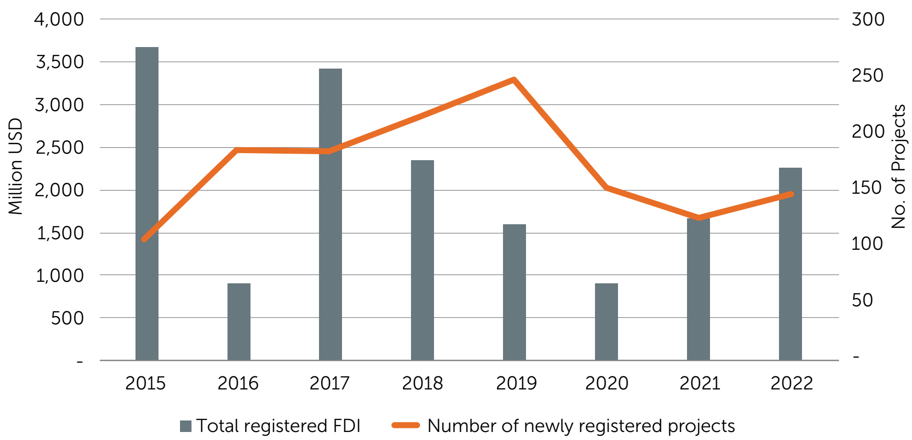
In 2022, Bac Ninh was one of the most attractive localities for FDI, ranking 4th after HCMC, Binh Duong and Quang Ninh, with a total FDI capital of 2.24 billion USD, up 34.9% compared to 2021. The number of newly registered projects also reached 147, up 16.7% y-o-y. Investment capital mainly focused on the processing and manufacturing industry and accounted for 42% of total FDI capital with 52 projects.

Figure 8:
Bac Ninh GRDP (current prices), GRDP Growth and IIP Growth by Year



Source: JLL Research

Figure 9:
FDI into Bac Ninh by Year



Source: Ministry of Planning and Investment

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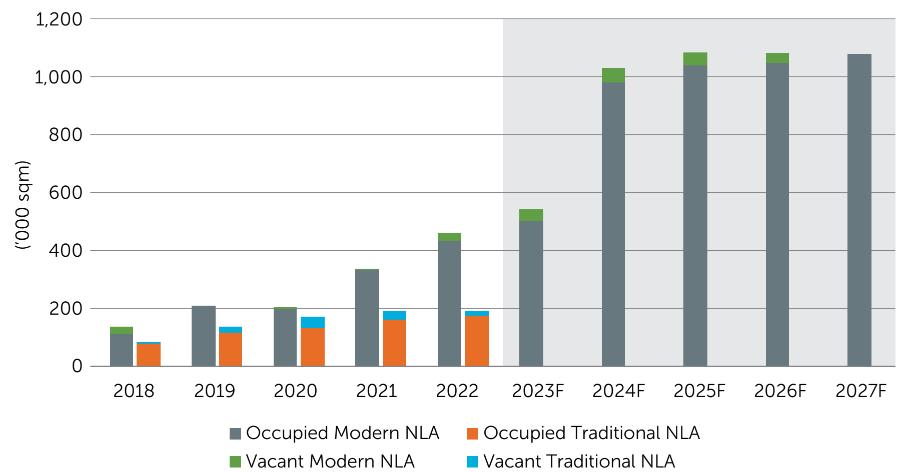
Infrastructure Development

In 2022, Bac Ninh allocated 10.1% of its provincial government financial budget towards infrastructure, positioning itself as one of the most rapidly advancing provinces in Vietnam.

Bac Ninh boasts a variety of transportation modes, encompassing air, water, rail, and road, all of which significantly contribute to the development of the province's infrastructure. While Bac Ninh itself lacks an airport, it is conveniently situated near Noi Bai International Airport and has good proximity to Cat Bi International Airport in Hai Phong City, ensuring easy access to air transport services. In terms of water transport, Bac Ninh is dependent on the port systems in Hai Phong and Quang Ninh Province, with connections available along the Duong River, Thai Binh River, and Cau River. Presently, three sizable ports are situated on these rivers: Dap Cau Port and two specialized ports on the Cau River.

The road transportation network within the province incorporates essential routes such as National Road No. 1A, No. 18, No. 17, and No. 38, which help link Bac Ninh to other cities and provinces, thereby establishing the area as a key access point for major markets. Bac Ninh also features a comprehensive network of provincial roads that interconnect the inner districts and towns, extending to national roads and connecting with other cities and provinces. Furthermore, the Hanoi-Thai Nguyen and Bac Giang-Lang Son Highways play a vital role in enhancing regional connectivity and promoting economic development. Bac Ninh's emphasis on upgrading existing roads seeks to improve transportation and foster the growth of development and commercial services in the future.

Figure 10:
Bac Ninh Warehouse Market Supply



Source: JLL Research

As for railway transport, the Hanoi-Lang Son railroad runs through Bac Ninh, spanning 20 km and including four stations. Another rail line, the Yen Vien-Pha Lai route, covers 39 km and traverses Tien Du, Tu Son Districts, Bac Ninh City, and Que Vo District. These rail lines are currently in adequate to good condition, providing sufficient railway transportation services for the province. The wide-ranging infrastructure development in Bac Ninh bolsters the region's economic growth and offers investors a well-connected and easily accessible business setting.

Warehouse Market

In terms of supply, Bac Ninh is currently the leading province in the North RBW market in both Modern and Traditional segments with a total supply of 640,080 sqm as of 2022 (Figure 10). Thanks to its prime location as the satellite city closest to Hanoi and located in the key economic development triangle of Hanoi - Hai Phong - Quang Ninh which attracts a large amount of FDI, Bac Ninh has all the favourable factors to develop industrial parks in general and RBW in particular. Benefiting from early industrial development, warehouse developers have established heavy presence in Bac Ninh province to serve increasing demand in the area. The total supply in 2022 has increased by nearly three times compared to 2018. Of this, Modern RBW witnessed stronger growth than the Traditional segment with CAGR of 35.3% and 22.4%, respectively. The expanding supply of Modern warehouses aims to meet the needs of high-quality space from ecommerce players (Shopee, Lazada), 3PLs, or manufacturers in high value added sectors such as computers and electronics. By the end of 2022, Bac Ninh had 452,137 sqm Modern RBW, accounting for 55.8% of the total Modern RBW in the Northern tier-I provinces. In the future, Bac Ninh is expected to welcome abundant new pipeline with CAGR of 18.8% in the period of 2023 – 2027. Notably, the market in 2024 will welcome the most Modern spaces by the completion of large-scale projects such as Mapletree Logistics Park Thuan Thanh Phase 1 and Phase 2, SLP Park Thuan Thanh II, BWID VSIP Bac Ninh 2, and Archetype Yen Phong. However, some projects may see construction delays and increased costs due to problems in legal procedures such as land compensation and site clearance.

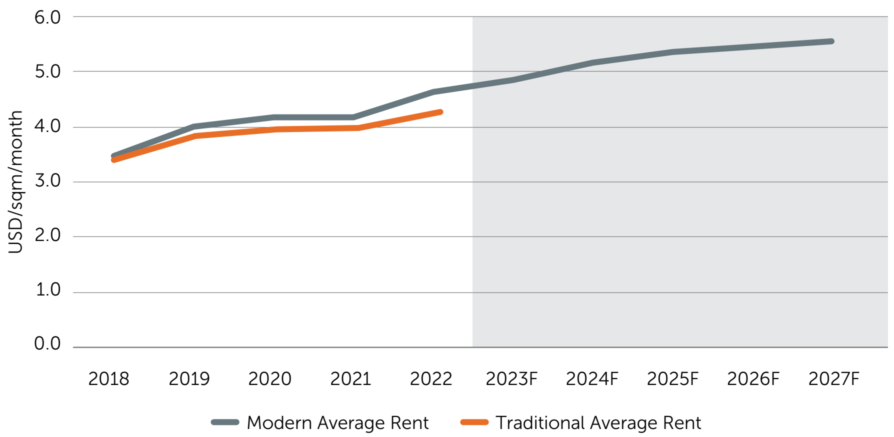
The proportion of Modern segment warehouses to total supply has also grown year by year, from 62% in 2018 to 71% in 2022, demonstrating the trend of expanding Modern space to capitalise on increasing demand.

In terms of demand, since Bac Ninh is the logistics hub for e-commerce players and retailers, the occupancy rate in the area is quite high compared to other provinces. In 2022, the occupancy rate of the Modern segment dropped 3% y-o-y to 95.5% as the market took time to absorb new supply. Meanwhile, the occupancy rate of the Traditional RBW segment went up 6.7% y-o-y and reached 92.8% thanks to stable supply and continued tenant interest. Regarding the tenant profile, main occupiers included e-commerce players, 3PLs, and manufacturers in the electronics, computer, optical products, and supporting industries.

Occupancy rates are predicted to experience a considerable upturn; however, the growth rate could slow due to the difficult economic landscape. Manufacturer and exporter demand for RBWs could therefore moderate.

The average rent of the RBW market in Bac Ninh has grown steadily over the years. Rents in the Modern segment have witnessed stronger growth with a CAGR of 7.5% in the 2018-2022 period, reaching USD 4.62 per sqm per month thanks to the appearance of institutional

Figure 11:
Bac Ninh Warehouse Market Performance



Source: JLL Research

developers. Modern grade rents range from USD 3.9 per sqm per month to USD 6.0 per sqm per month, mainly from RBWs in Tu Son and Yen Phong districts. In particular, Tu Son, being the earliest established area given close proximity to Hanoi, has weighted average rent primarily driven by long-standing and large developments; however, if only considering the newly launched projects in the area, the rent here is higher than Yen Phong by 11%. In the Traditional segment, the growth rate and average rents were 5.9% and USD 4.27 per sqm per month respectively (Figure 11).
In the future, the average rent of the Modern segment is forecast to increase at a CAGR of 3.5% in the 2022 – 2027 period. The heavy presence of Modern warehouse providers and high demand from nearby tenants will help maintain this pricing level.

Market Outlook

Industrial occupier demand is clustered mainly towards the north and east of Hanoi, namely Bac Ninh, Hung Yen, and Hai Duong. As such, the demand and competition from industrial sub-developers are expected to increase in Bac Ninh. The leading position of Bac Ninh in the North will be maintained for the next 5 years, driven by the most future RBW space. Some prominent projects from key developers can be mentioned, such as Mapletree, BWID, SLP, and Sembcorp. Currently, Tu Son and Yen Phong are the locations with the largest concentration of RBW thanks to their convenience for serving the Hanoi consumption market. However, the land bank in these districts is shrinking, and thus RBW developers are moving further to other districts like Thuan Thanh and Que Vo.

On the other hand, Bac Ninh is likely to choose investment projects with criteria such as using less land and less labor, high investment rate, and high technology. Therefore, new RBW projects are increasingly interested in the application of high technology, environmental protection and development in accordance with the criteria of industrial park ecosystems.

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Hung Yen Warehouse Market Overview

Macroeconomic Overview
From the industrial-construction sector accounting for only about 45% of the province's total GRDP in 2010, Hung Yen has in 2022 become one of the key localities in industrial development in the NKEZ, with the ratio of the industrial-construction sector increasing to 64%. This is thanks to its spearhead position in the middle of the Hanoi - Hai Phong - Quang Ninh triangle, convenient transportation, and the strong development of industrial parks in the province.

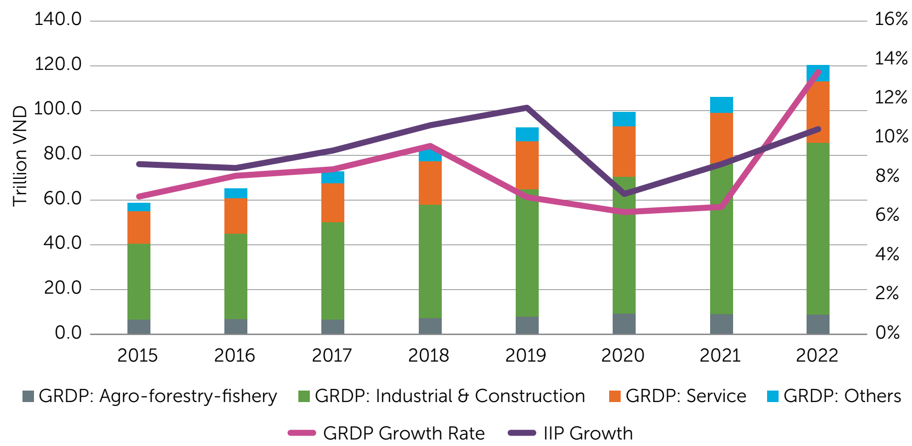
The positive change in economic structure and impressive investment demand has strongly influenced industrial development in the 2015 – 2022 period, with an average IIP growth of 9.4% per annum, 19% higher than that of Vietnam (Figure 12). Specifically, Hung Yen's IIP index grew 10.5% y-o-y in 2022 - the highest growth from 2020, reaching 120.7% of the yearly plan, in which footwear increased by 25% y-o-y, and iron and steel increased by 13% y-o-y.

In 2022, Hung Yen's GRDP grew by 13.4% y-o-y, its highest increase in the past 12 years. The key contributor to growth was the 41.5% y-o-y surge in the construction production index. On average, in 2015-2022, Hung Yen's GRDP increased by 8.3% per annum, only lower than Hai Phong's average GRDP growth in the NKEZ.

While FDI in most provinces declined because of Covid-19 in 2020-2021, total FDI capital in Hung Yen continued to grow healthily since 2018. By the end of 2022, Hung Yen received around 6.6 billion USD of FDI, ranked 17th country-wide. With the growing amount of FDI pouring into the province in the last two years and the first two months of 2023, it is expected that Hung Yen will improve its cumulated FDI ranking in the next few years.

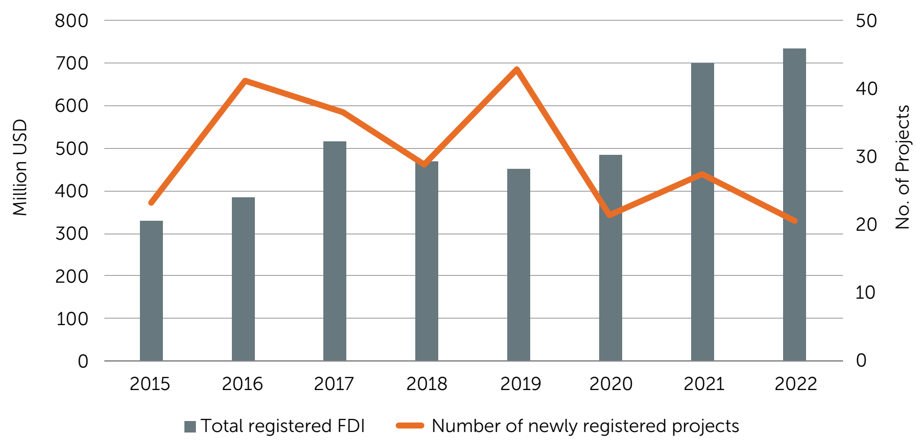
In 2022, Hung Yen ranked 13th in terms of FDI capital. It received a total FDI capital of 0.75 billion USD, up 4.78% compared to 2021, with 21 newly registered projects and 58 projects receiving additional investment capital (Figure 13).

Figure 12:
Hung Yen GRDP (current prices), GRDP Growth and IIP Growth by Year



Source: Hung Yen Statistics Office

Figure 13:
FDI into Hung Yen by Year



Source: Ministry of Planning and Investment

Infrastructure Development
Located in the Red River Delta area of northern Vietnam, Hung Yen province has undergone significant development. To support this progress, the local government commits nearly 1.1% of its yearly financial budget to infrastructure initiatives. The 29.5 km Hanoi-Hung Yen Expressway has been instrumental in bolstering transport networks and streamlining the transit of goods and individuals throughout the region. Additionally, upgrades to National Road 39 have successfully mitigated traffic jams and fostered improved connections between Hung Yen and its neighbouring provinces.

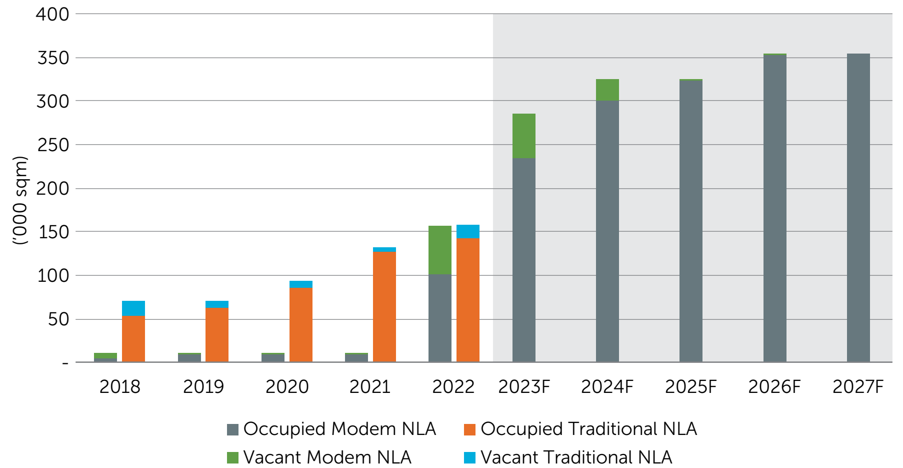
Hung Yen's transportation options are relatively limited, with road transport being the primary mode for companies operating in the province to connect with other regional provinces. The completion of the anticipated Ring Road 4 project is expected to unlock numerous opportunities for Hung Yen, with districts such as Van Lam, Yen My, and Van Giang poised to benefit directly.

Currently, the province is connected to Hanoi via National Road 5A and the Hanoi – Hai Phong highway, which also leads to Hai Phong port, the primary container port for import-export activities in the Northern region.

Water transportation in Hung Yen is limited, as the province is surrounded by other provinces and lacks a coastline. Consequently, domestic waterway transportation options are scarce. In terms of air transport, Hung Yen does not have an airport nor plans to build one in the near future. However, its proximity to Noi Bai airport allows the province to utilize this major international airport for air transportation needs.

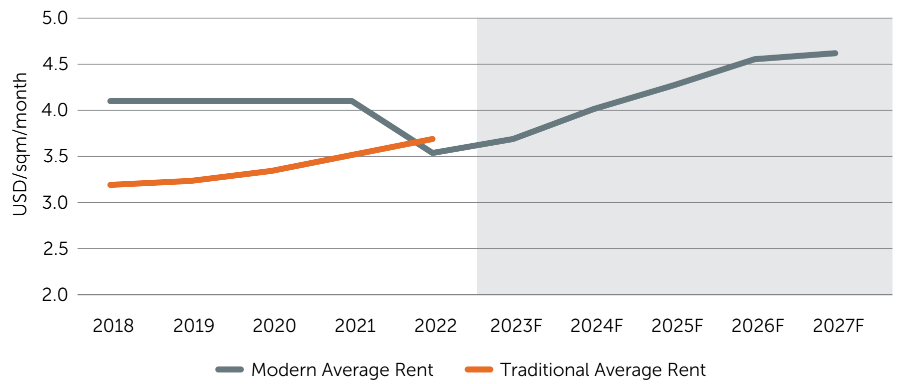
Regarding railway transportation, the Gia Lam - Hai Phong railway line is currently the only railway route that passes through Hung Yen province, cutting through Van Lam district over a length of approximately 18km. Additionally, the government is considering the Lao Cai - Hanoi - Hai Phong railway line, spanning a total length of 392km with an investment capital of 100 trillion VND. This proposed railway would pass through Van Lam district and My Hao town in Hung Yen province, covering a length of 19.4km.

Figure 14:
Hung Yen Warehouse Market Supply



Source: JLL Research

Figure 15:
Hung Yen Warehouse Market Performance



Source: JLL Research

Warehouse Market

Although starting later, Hung Yen has witnessed a remarkable growth in total supply recently, reaching 315,621 sqm by end 2022 and becoming the second largest in terms of supply in the Northern region (Figure 14). The total supply has grown over the years in both the Modern and Traditional segments.

In Modern supply, 2022 saw significant expansion driven by the market entry of Mapletree Logistics Park phase 1 and phase 2, and new development of nPL in Yen My IP, which has contributed more than 145,122 sqm to the Northern logistics market. This has resulted in Modern spaces surpassing Traditional ones, but has widened the gap in occupancy rate between the two segments. In the future, Modern stock is forecast to grow at a CAGR of 5.5% in the 2023 – 2027 period. 2023 will see the strongest increase, with about 130,000 sqm entering the market from the projects of Mapletree Hung Yen Logistics Park Phase 3 and GawNP in Minh Quang IP.

In terms of demand, thanks to its borders with Hanoi and Bac Ninh, good access to main seaports and major consumer market, Hung Yen is attracting more attention and becoming a new destination for both developers and occupiers. The occupancy rate in the area has remained high over the years before dropping in 2022, owing to the introduction of large supply in the year. Occupancy is predicted to gradually increase over the period of 2023 - 2027 as the vacant space is steadily absorbed. In contrast, the occupancy rate for Traditional generally trended higher and remained above 90% in the last three years.

Hung Yen's weighted average rent remains at a relatively competitive range, from USD 2.5 per sqm per month to USD 4.2 per sqm per month (Figure 15). In the 2018 – 2021 period, the rental rate of Modern warehouses was stable at USD 4.1 per sqm per month. However, 2022 average Modern rent declined to USD 3.55 per sqm per month, regulated by lower-than-average asking rents

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from newly launched large-scale projects. Modern grade rental rates have fluctuated between USD 3.4 per sqm per month and USD 4.1 per sqm per month with all projects concentrated in Yen My district. The average asking rent of Modern projects is likely to go up and gradually move higher than the Traditional segment thanks to higher rents expected in new high-quality projects from institutional developers such as GawNP, Vietlog, and Mapletree which are set to enter the market in the upcoming period.

Market Outlook

As Hanoi and Bac Ninh became more crowded, and infrastructure improves, new clusters will be established further north and east of Hanoi. Therefore, Hung Yen will benefit from the spillover effect from Hanoi and Bac Ninh. Besides, Hung Yen also has the advantages of reasonable competition and available land bank. These factors will be positive drivers for both supply and demand in the long run. Future occupiers coming to Hung Yen would include those operating in textile & garment (Hung Yen was famous for this sector for a long time), electronics (spillover from Bac Ninh), and logistics (movement from Hanoi). Yen My and My Hao are two logistics hotspots in Hung Yen thanks to the supporting infrastructure network. Supply in these two sub-areas will continue to increase till 2026, especially in Yen My with Mapletree's pipelines.

LOGISTICS INVESTMENT MARKET

Table 1:
Notable Logistics Transactions in the North

Purchaser	Seller	Location	Land Area (ha)	Remark
Inventec Corporation	N&G Investment and Development Corporation	CN03 Plot, Hanoi Supporting Industry IP, Phu Xuyen, Hanoi	16.17	Development land
Boustead Singapore	Bui Duc Manh	Yen Phong IP, Bac Ninh	9.6	Operating asset
Boustead Singapore	Khai Toan JSC	Yen Phong 2C IP, Bac Ninh	24.6	Operating asset
Mapletree Logistics Trust	Mapletree Investments	VSIP IP, Tu Son, Bac Ninh	11.31	Operating asset
Mapletree Logistics Trust	Mapletree Investments	VSIP IP, Tu Son, Bac Ninh	15.83	Operating asset

Source: JLL Research and RCA

Table 2:
Notable Logistics Transactions in the South

Purchaser	Seller	Location	Land Area (ha)	Remark
Mapletree Logistics Trust	Mapletree Investments	Mapletree Logistics Park - Phase 5, VSIP II-A, Tan Uyen, Binh Dong	11.3	Operating asset
Logos Property, Manulife Financial	Vietnam Rubber Group	Dau Glay IP, Thong Nhat, Dong Nai	n/a	Development land
BW Industrial	Hai Son Co., Ltd	Xuyen A IP, Duc Hoa, Long An	22.3	Development land
BW Industrial	Vinh Loc - Ben Luc IP Construction and Investment JSC	Vinh Loc 2 IP, Ben Luc, Long An	20.9	Development land
Boustead Singapore	Khai Toan JSC	Nhon Trach 3 - Phase 2 IP, Nhon Trach, Dong Nai	6.2	Development land
Boustead Singapore	Khai Toan JSC	Nhon Trach 3 - Phase 1 IP, Nhon Trach, Dong Nai	3.4	Operating asset
Boustead Singapore	Khai Toan JSC	Nhon Trach Textile, IP, Nhon Trach, Dong Nai	5.4	Operating asset

Source: JLL Research and RCA

INFRASTRUCTURE DEVELOPMENT

Table 3:
Binh Duong Key Infrastructure Projects

Project	Expected Completion Year	Estimated Investment	Length/Capacity	Implications for Industrial & Urban Logistics
HCMC - Thu Dau Mot - Chon Thanh Higheway	2022-2025	Approx. VND 24.275 billion (PPP investment)	• 68.7 km total length, with sections designed for speeds up to 120 km/h and 6 lanes	Improved connectivity will attract businesses to the industrial and logistics sectors, spurring economic growth and supply chain efficiency in the region.
HCMC Ring Road 3	2023-2026	Approx. VND 75.378 billion (ODA investment)	• 97.7 km total length, 4 motor vehicle lanes, 2 mixed lanes, 100 km/h design speed	Enhanced connectivity and reduced travel times will encourage the growth of modern logistics facilities, meeting increasing demand for warehousing and distribution centers.
HCMC Ring Road 4	Up to 2030	Approx. VND 100.000 billion	• 197.6 km total length, 8 lanes, 100 km/h design speed	Similar to Ring Road 3, this project will profoundly impact industrial and urban logistics sectors in the wider SKEZ provinces, supporting the growth of advanced logistics facilities and optimizing supply chain management.
Bac Tan Uyen - Phu Giao - Bau Bang Road	2021-2024	Approx. VND 725 billion	• 26.3 km total length 6 lanes, 80 km/h design speed	The project will bolster regional connectivity and traffic efficiency, stimulating economic growth and attracting investments while enhancing accessibility to key areas in the region.

Source: JLL Research

Table 4:
Bac Ninh Key Infrastructure Projects

Project	Expected Completion Year	Estimated Investment	Length/Capacity	Implications for Industrial & Urban Logistics
Hanoi - Bac Giang Highway	2016	Approx. VND 4,210 billion	• Length: 45.8 km, connecting Hanoi with northeastern provinces	This highway has become vital for promoting industrial, tourism, and urban development in Bac Ninh and Bac Giang provinces since its operation.
Ring Road 4 - Capital Region	2023-2028	Approx. VND 86,000 billion	• Length: 112.8 km, 6 lanes, 100 km/h design speed	This project connects 7 highways and supports the development of 5 satellite cities, attracting industrial park development and facilitating economic restructuring.
Bac Giang - Lang Son Highway	2025	Approx. VND 12,000 billion	• Total length: 174 km	The completed route reduces travel time from Hanoi to Lang Son, facilitating efficient transport between major industrial parks and the Huu Nghi border gate.
Bac Nin - Pha Lai Highway	Under proposed	Approx. 4,000 billion (proposed)	• Connecting Ring Road 4 with NR18 • Total length of 10.3km • Width of 100m	Upon government approval, the 10.3 km Bac Ninh-Pha Lai Highway, linking Ring Road 4 and National Road 18, will markedly boost Bac Ninh's competitiveness in the Northern Key Economic Zone. Enhanced connectivity and efficient transportation will draw investments and foster industrial and urban expansion within the area.

Source: JLL Research

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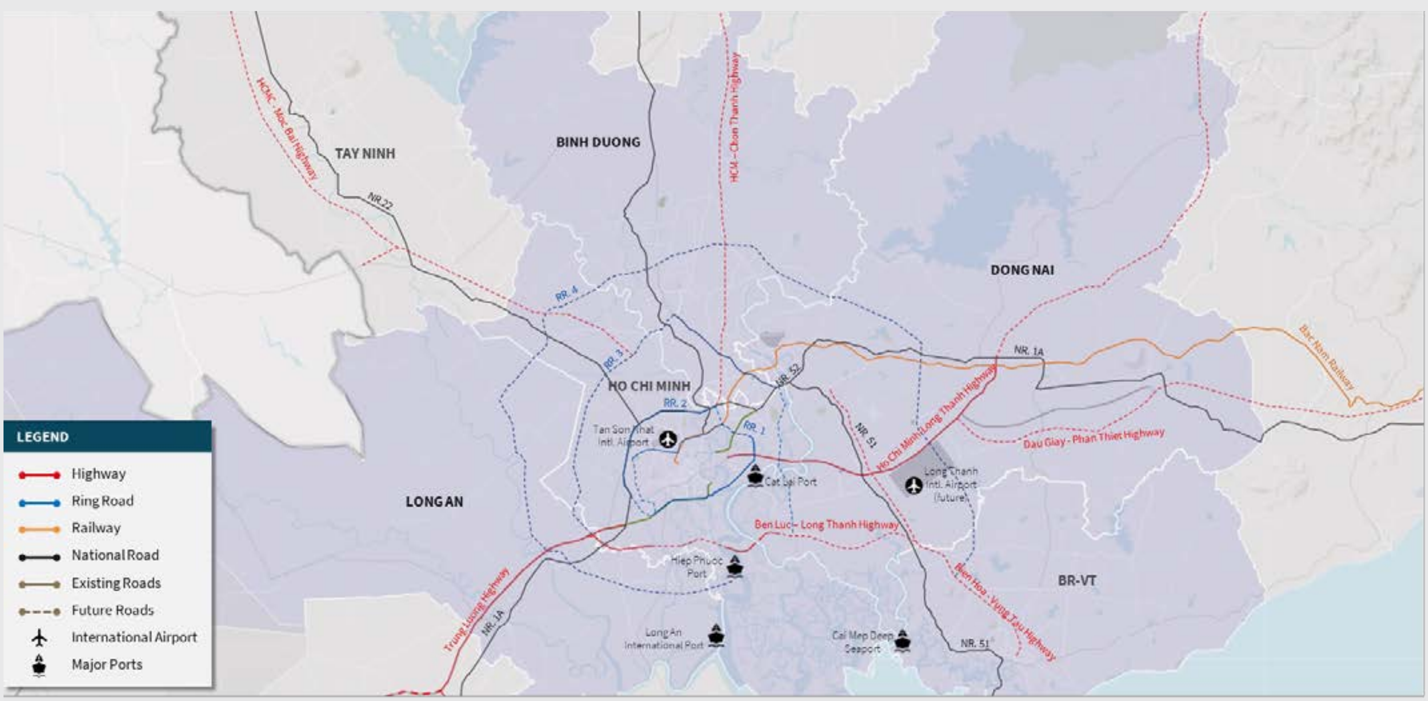
INFRASTRUCTURE DEVELOPMENT

Table 5:
Hung Yen Key Infrastructure Projects

Project	Expected Completion Year	Estimated Investment	Length/Capacity	Implications for Industrial & Urban Logistics
Hanoi - Hai Phong Highway	2015	Approx. VND 45,487 billion	• Length: 105.5 km, 6 lanes, connects Hanoi and Hai Phong	Theis highway is a critical freight route for the Northern Pivotal Economic Region and the Kunming-Hanoi-Haiphong Economic Coridor.
Hai Phong - Ha Long - Van Don - Mong Cai Highway	2022	Approx. VND 40,000 billion	• Total Length: 176 km	This project makes Quang Ninh region with the most highway kilometers in Vietnam, connecting the Hanoi-Hai Phong-Ha Long-Van Don-Mong Cai highways, accounting for 16.83% of Vietnam's total highway length.
Hanoi - Hung yen Inter-Provincial Road	2021-2025	Approx. VND 2,900 billion	• Road surface width: 21 m, 4 lanes for motor vehicles, 2 lanes for rudimentary vehicles	The upgraded road will connect Hanoi, Bac Ninh, and new urban areas in Hung Yen, providing seamless transportation and fostering industrial and urban development in the region.

Source: JLL Research

Figure 16:
Southern Vietnam Major Infrastructure Projects Map



Source: JLL MapIT Research

Figure 17:
Northern Vietnam Major Infrastructure Projects Map

Source: JLL MapIT Research

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