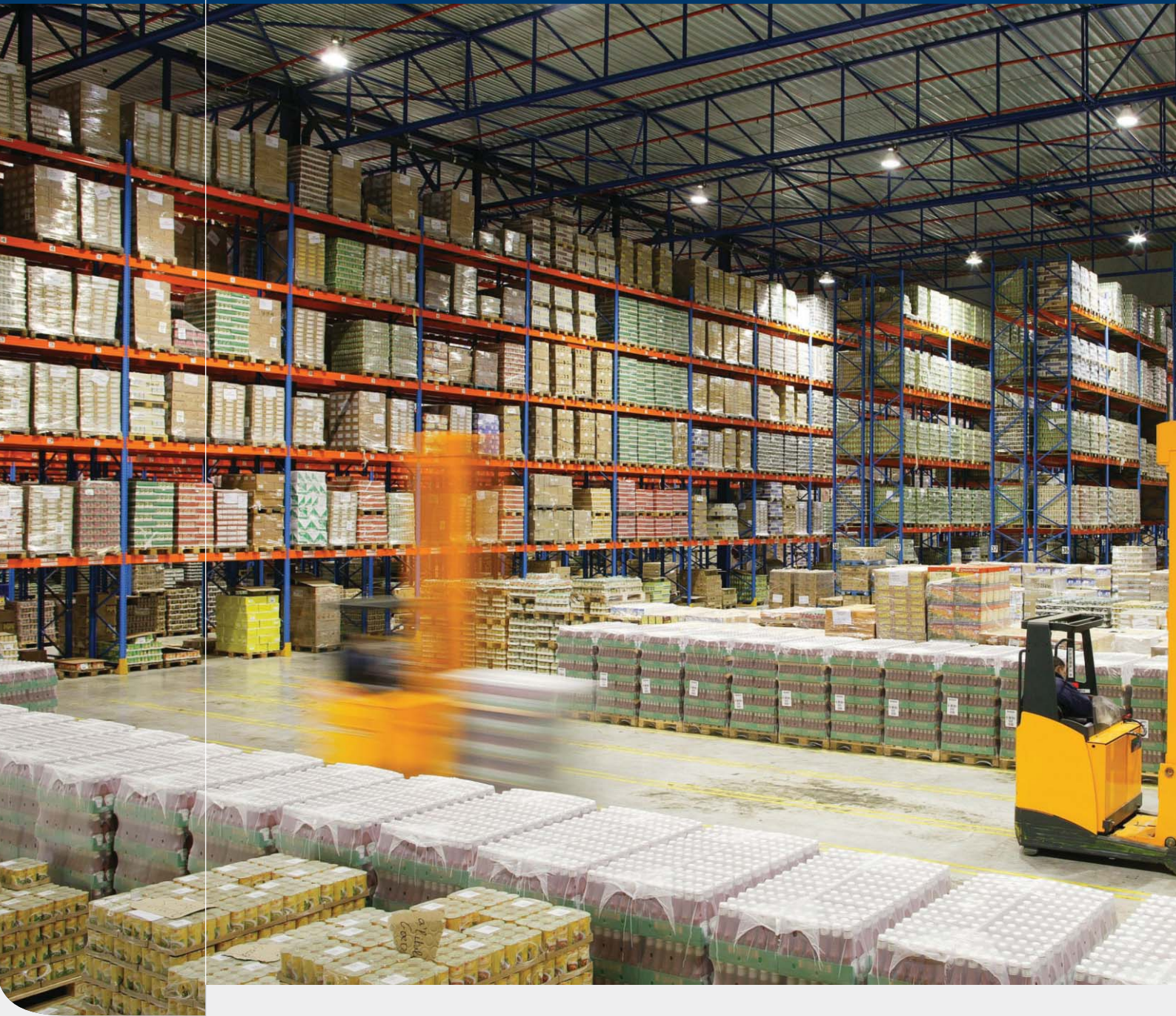


A RESEARCH PUBLICATION | August 2008

INDIA REPORT

LOGISTICS INDUSTRY REAL ESTATE'S NEW POWER HOUSE





**CUSHMAN &
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Global Real Estate Solutions

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EXECUTIVE SUMMARY

The Indian economy has witnessed fast-paced growth over the last decade, making it one of the preferred investment destination for multinational corporations and a recognised manufacturing hub to the world. This, in turn, has resulted in increased demand for world-class logistics and warehousing services in India, leading to the growth and transformation of this sector. The logistics sector has been growing at an impressive rate of 8 to 10 per cent per annum since 2002 to touch revenues of \$100 billion in 2007 - 08¹. The World Bank's 2007 Global Logistics Report ranks India 39th amongst 150 countries in terms of logistics performance during the year as well as its future potential. Further, the Indian logistics industry is expected to grow annually at the rate of 15 to 20 per cent, reaching revenues of approximately US\$ 385 billion by 2015. The accelerated growth of the logistics industry, coupled with an increasing trend to outsource warehousing activities, has made India a vast and untapped market.

For most domestic players logistics has for long been restricted to the basic transportation of goods. Traditionally, warehousing – which is an important constituent of the logistics sector – has been dominated by small players with low capacities and poor deploying, handling, stacking and monitoring technologies. Erratic power

supply and prolonged outages also meant low dependence on technology. India's archaic warehousing system was detrimental to the growth of almost all sectors, especially sectors like food and food-processing that requires modern warehouses and investments in cold chains and allied machinery.

With increasing demand (from both MNCs and Indian companies) and growing requirements, the Indian logistics industry has expanded its bouquet of services to now include warehouse-related activities as well. Interestingly, the role of a warehouse too has transformed – from a traditional storehouse to a place where the inventory is efficiently managed, with greater emphasis being laid on value-added services, such as packaging, labelling, bar coding and reverse logistics.

All these factors have led to the rapid growth of the organised warehousing industry in India. Growing at the rate of 35 to 40 per cent per annum, the warehousing industry is capturing the imagination of various logistics players, both domestic as well as international. Warehousing activities account for about 20 per cent of the total Indian logistics industry² and offer tremendous growth potential. This market segment is estimated to grow from US\$ 20 billion in 2007-08 to about US\$ 55 billion by 2010-11³.

1. ICICI Direct report on Transport Corporation of India

2. ET Knowledge Series 2002

3. Report on 'Skill Gaps in Indian Logistics Industry' by KPMG

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Over the next five years, approximately 110 logistics parks and 45 million square feet of warehousing space is expected to be developed across the country by various logistics companies. This upsurge in the logistics and warehousing industry will in turn boost real estate activities in key locations across the country.

While the India logistics sector holds tremendous potential, it forms a very small portion of the total global market for logistics at approximately 2 per cent of the estimated US\$ 5,000 billion global logistics industry.

Despite the impressive growth rates, the logistics sector in India is fraught with many inefficiencies. Logistics cost in India is fairly high – at around 13 per cent of GDP, which is much higher than that in USA (9%), Europe (10%) and Japan (11%). According to a recent report by FICCI-Ernst & Young (E&Y), the average time taken to clear import and export cargo at ports is about 19 days in India, against three to four days in Singapore. As compared to the European countries, rail transportation in India is almost 3.5 times more expensive and the average transit time by road is three times higher. These inefficiencies of the Indian logistics industry can be attributed to factors such as a complicated tax regime, fragmented market structure and inadequate infrastructure.

While there are several factors that go against India's logistics industry, however there are many growth drivers that suggest its rapid transformation. While India lags behind major global logistics hubs like Singapore, Germany and Japan, factors like the changing tax regime, increasing trade and the emergence of organised retail will lead to accelerated growth in the sector over the next five to seven years. Infrastructure developments like the railway-dedicated freight corridors, road development

projects and modernisation of over 37 operational airports will increase India's handling capacities, thereby enhancing logistical performances.

This report identifies the key growth drivers for India's logistics sector – such as increase in foreign trade, outsourcing of manufacturing activities and the emergence of organised retail – that are necessitating the growth of warehousing, supply chain management, cold-storage and transportation. This study has also undertaken a SWOT analysis of various modes of freight transportation – viz. roadways, railways, ports, waterways and airways.

The findings of this report suggest that logistics and warehousing activities are heavily concentrated in western India. However, the report also highlights the fact that logistics activities are fast spreading to other parts of the country, and more importantly to tier-2 and tier-3 cities. The report's location attractiveness analysis is aimed at identifying established as well as upcoming centres for this sector. These centres have a direct bearing on the concomitant real estate developments in and around such locations.

Case studies on established logistics hubs in India, like Mumbai and Kolkata, along with similar studies on tier-2 and tier-3 cities where logistics activities are gathering pace – such as Nagpur, Indore, Vizag and Kochi – are aimed at providing a better understanding of how the sector is transforming.

Today, the biggest challenge before the logistics industry is to increase efficiencies and become more cost-effective, thereby increasing India's overall cost arbitrage. The report also examines steps that can help India achieve that increased efficiency and ensure a more balanced and planned growth of the logistics sector.

1. Global logistics industry report by Global Coalition for Effective Logistic

Logistics cost in India is fairly high - at around 13% of GDP, which is much higher than that in USA (9%), Europe (10%) and Japan (11%).

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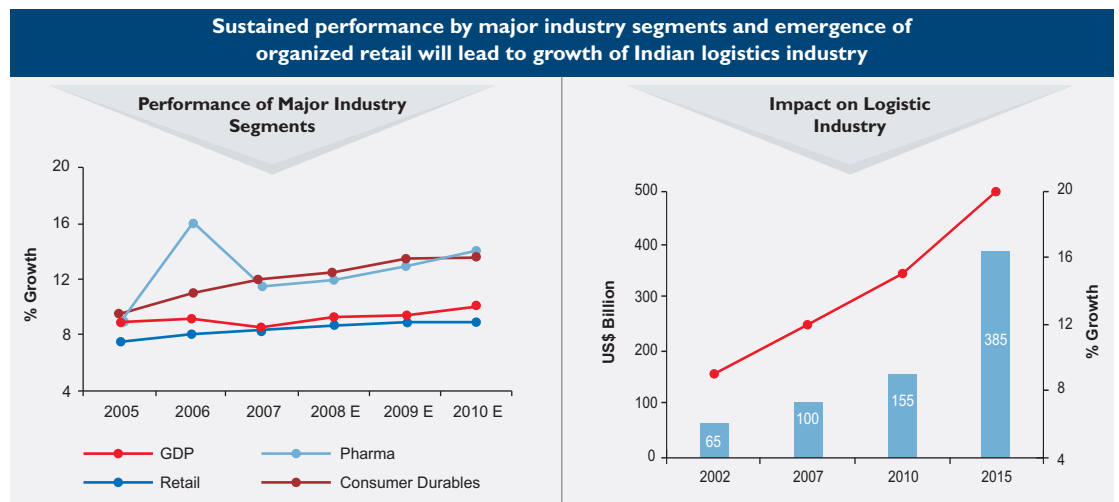
INTRODUCTION

Logistics on a high growth trajectory

The Indian logistics sector grew by 8 to 10 per cent annually between 2002 and 2007. Several factors have favourably impacted the growth of the logistics industry, like the country's changing tax regime, growth across major industry

segments such as automobile, pharmaceutical, fast moving consumer goods (FMCG) and the emergence of organised retail. With escalating competition and cost pressures, companies are increasingly focusing on their core competencies by outsourcing their logistics requirements to third party logistics (3PL) players.

India will emerge as one of the global 'manufactured product' outsourcing hubs and reach revenues of approximately US\$ 50 billion by 2015.



Source: Cushman & Wakefield Research

The future of the Indian logistics and warehousing industry is currently governed by three key factors:

a) Burgeoning domestic demand

Emergence of organised retail: Globally, retail has been a key growth driver for the logistics industry and India is no exception to this phenomenon. Organised retail in India has been growing at over 30 per cent year-on-year. The total retail industry in India is expected to grow from US\$ 320 billion¹ in 2006 to US\$ 421 billion by 2010.

The growth of organised retail has created demand for specialised logistics services, wherein every retailer relies on strong logistics and warehousing infrastructure for the success of its business. This changing business environment should give further impetus to the logistics sector by generating increased demand for high-quality and efficient logistics and warehousing services.

Increase in foreign trade: In 2007, the Indian economy witnessed a growth of 13 per cent in

exports and 17 per cent in imports. India's current share in global trade is around 0.8 per cent and is expected to increase to 1.6 per cent by 2012. Robust growth in foreign trade will increase the demand for good quality and timely logistics and warehouse services.

India becoming a manufacturing hub: The world over, India is being recognised as a destination for outsourcing of custom-based, high-technology manufacturing activities. According to Confederation of Indian Industries (CII), India will emerge as one of the global 'manufactured product' outsourcing hubs and reach revenues of approximately US\$ 50 billion by 2015. In order to remain cost-competitive, contract manufacturers will be required to provide integrated logistics solutions that will bolster the cost savings potential of the outsourcing initiative. The increasing trend of outsourcing will, in turn, drive strong demand for logistics solutions in the country.

1. Retail in India - Getting organized to drive growth, A T Kearney

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b) Reducing logistics costs

The logistics cost in India – which includes inventory holding, transportation, warehousing, packaging, losses and related administration costs – is estimated at approximately 13 per cent of GDP and is high when compared to the corresponding figures for major economies.

Logistics cost across major markets		
Country	Logistics Cost as % of GDP	% of logistics activity by organized sector
USA	9%	57%
Europe	10%	30-40%
Japan	11%	80%
India	13%	Less than 6%
China	18%	10%

Source: Accenture Study

India's multi-layered tax regime, infrastructure bottlenecks and other inefficiencies have been the primary reasons in keeping logistics costs high in India. Under the existing tax structure, 2 per cent Central Sales Tax (CST) is levied on inter-state sales. As a result, companies have had

to maintain small warehouses and depots in every state in order to avoid paying CST on inter-state sales. These multiple warehouses have resulted in high inventory costs, increased working capital and other overheads.

A simplified tax regime will help logistics players service multiple markets and offer end-to-end solutions far more efficiently and at much lower costs. As per the World Bank's report on the Logistics Performance Index, a 0.5 per cent decrease in logistics cost leads to 2 per cent growth in trade and a 40 per cent increase in the range of products that get exported out of the country.

From multiple taxes to a simplified tax regime: Union Budget 2008-09 has proposed the phasing out of Central Sales Tax (CST) by 2010-11. Once implemented, this measure will promote outsourcing of logistics operations and encourage the creation of large warehouses at key strategic locations that could operate on the 'hub-and-spoke' model. The implementation of Value Added Tax (VAT) in 2006 has played a role in reducing logistics costs. The proposed implementation of Goods and Service Tax (GST) could lower logistics costs further.

According to the Confederation of Indian Industry (CII), improvement of logistics and warehousing industry can make Indian industries more cost-competitive, thereby enabling a GDP growth of 11 to 12 per cent, from the existing 7 to 8 per cent.

c) Improvement in infrastructure

Transportation in India accounts for nearly 40 per cent of the total cost of production. One of the major barriers faced by the Indian logistics industry has been the lack of quality physical infrastructure. However, India's core sectors are witnessing a significant change. The country is expected to increase its infrastructure development spend from 4.7 per cent of GDP in 2007 to 8 per cent of GDP by 2012¹. This increased spend will help boost the logistics industry. However, delays in critical projects may lead to a failure of this measure to provide the much needed impetus to the growth of this

1. ICICI Direct report on Transport Corporation of India

The country is expected to increase its infrastructure development spend from 4.7 per cent of GDP in 2007 to 8 per cent of GDP by 2012. This increased spend will help boost the logistics industry.

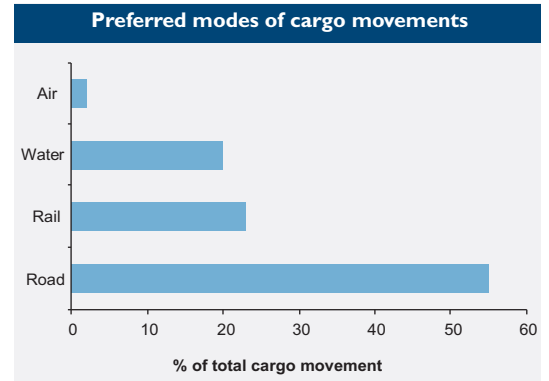


Source: Cushman & Wakefield Research

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sector. Better connectivity to small towns and cities is another area planners need to work upon.

Road transportation is currently the most dominant form of transportation with more than half of the goods in the country being moved by road. Almost every mode of transportation in India is fraught with inefficiencies. For instance, ports – that are vital for foreign trade—have very high turnaround times when compared with statistics for other countries. Similarly, the railways, which were a popular mode for freight transportation (especially the movement of bulk goods), have lost ground to road transportation due to limited access to smaller towns. Air, on the other



Source: Confederation of Indian Industry

hand, is a costly mode and its use is restricted to courier shipments. It is rarely used for bulk transportation.

Modernisation of 37 operational airports and development of new airports will increase air cargo handling capacity.

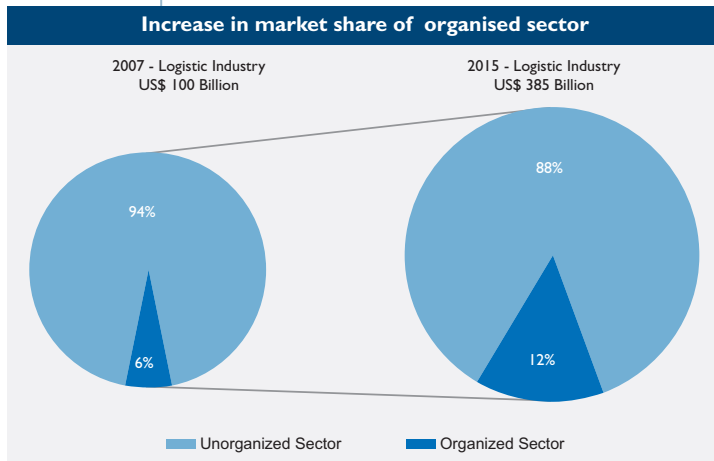
Various modes of transportation and their characteristics			
Roads	Railways	Water / Ports	Airports
<p>Advantages:</p> <ul style="list-style-type: none"> Road network of 3.3 million km is the second largest globally 55% of total freight movement is via roadways Roads offer wide reach and easy accessibility to even small markets <p>Disadvantages:</p> <ul style="list-style-type: none"> High cost of transportation National Highways account for only 2% of the total network but carries 40% of total freight <p>Key Developments:</p> <ul style="list-style-type: none"> National Highway Development Project to upgrade and modernise highways 24,000 km of National Highways are to be upgraded to four/six lanes. Connectivity to ports is also being improved The following projects are under development. <ul style="list-style-type: none"> - The Golden Quadrilateral - North – South Corridor - East – West Corridor 	<p>Advantages:</p> <ul style="list-style-type: none"> Spread over 81,500 km, railways carries 25% of total freight movement Low transportation cost as compared to roads <p>Disadvantages:</p> <ul style="list-style-type: none"> Bulk commodities account for 90% of total freight revenues Inflexibility to reach deep interiors <p>Key Developments:</p> <ul style="list-style-type: none"> Phase I of dedicated freight corridor along Golden Quadrilateral to be initiated in 2008-09 	<p>Advantages:</p> <ul style="list-style-type: none"> Cheapest mode of transportation <p>Disadvantages:</p> <ul style="list-style-type: none"> Poor state of inland waterways in the country High turnover time <p>Key Developments:</p> <ul style="list-style-type: none"> Cargo handling capacity of ports to be increased from 600 million tones in 2007 to 1500 million tones by 2015 	<p>Advantages:</p> <ul style="list-style-type: none"> Fastest mode of transportation <p>Disadvantages:</p> <ul style="list-style-type: none"> Low freight movement 87% of total freight traffic being handled by airports in metro cities <p>Key Developments:</p> <ul style="list-style-type: none"> Modernisation of 37 operational airports and development of new airports will increase air cargo handling capacity

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EMERGING TRENDS IN LOGISTICS INDUSTRY

Growth within the organised sector

The logistics and warehousing sector in India, till now, has been highly fragmented and characterised by the presence of numerous unorganised players. A large number of players have been providing services in individual segments like transportation, warehousing, packaging etc. In 2007, organised players accounted for only 6 per cent of the total US\$ 100 billion Indian logistics industry.



Source: Cushman & Wakefield Research

However, changing business dynamics and the entry of global third party logistics players (3PL) has led to the remodelling of the logistics services in India. From a mere combination of transportation and storage services, logistics is fast emerging as a strategic function that involves end-to-end solutions that improve efficiencies. Logistics players that provided limited logistics services, are also planning to broaden their areas of operation.

Besides expansion of distribution network by both national and regional players, the sector is also witnessing considerable M&A (merger & acquisition) activity. For instance, DHL acquired Blue Dart, TNT acquired Speedage Express Cargo Service and Fedex bought over Pafex. Consolidation within the industry will lead to economies of scale for the existing organised players, thereby lowering costs and improving efficiencies.

Global logistics companies – like Gazeley Broekmen (Wal-Mart's logistics partner), CH Robinson and Kerry logistics – have also forayed into the Indian market in order to capitalise on the vast emerging opportunities within this industry. Many of them are planning to develop their own logistics parks across the country.

Entry and expansion plans of logistics firms*

- DHL and India-based the Lemuir Group entered into a 76: 24 joint venture – DHL Lemuir Logistics Private Ltd.
- Germany-based Rhenus AG and Hyderabad-based Seaways Shipping Ltd have set up a joint venture – Seaways Rhenus Logistics Ltd.
- The UAE-based Swift Freight has forayed into the Indian market.
- Blue Dart Express is planning to add 1 million square feet of warehousing space to develop 58 warehouses across the country by 2010.
- The Future Group plans to develop 3 million square feet of warehouses by 2010.
- National Bulk Handling Corporation plans to set up 200 warehouses across the country by 2012.

*The above section captures samples of publicly reported plans of logistics firms

Another trend witnessed over the last few years has been the entry of several large Indian corporate houses – such as the Bharti group, Tatas and Reliance Industries Limited – into the logistics sector. The Indian conglomerates foresee huge potential for specialised logistics and warehousing facilities, particularly in industries like retail. Companies like Bharti, Tata Realty & Infrastructure, GE Equipment Services and Reliance Logistics cater to the logistics needs of their own group companies as well as provide services to the other companies.

The growth of the organised sector would enable the industry to provide cost-effective and integrated logistics solutions in order to meet the ever-increasing demand. As per estimates, the market share of organised logistics players is expected to double from 6 per cent in 2007 to approximately 12 per cent by 2015.

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Emerging concept of third party logistics

Third party logistics or 3PL is a concept where a single logistics service provider manages the entire logistics function for a company. Although still at a nascent stage, the Indian 3PL industry is growing at a rapid pace. Global sourcing activity and fierce competition amongst manufacturers to cut costs have made movement of materials rather complex, giving rise to the emergence of several third party logistics players.

Fuelled by the increasing trend of outsourcing, coupled with the rapid growth in the Indian manufacturing sector, 3PL is estimated to grow at about 30 per cent annually and become a US\$ 30 billion industry by 2010.

Firms	Investment Details/ Plans (2007-08) (in US \$ mn)
DHL	250
TNT	115
Gati	200
Shreyas Shipping and Logistics	350

Above section captures publicly reported information

The entry of large third party logistics (3PL) carriers – like Federal Express (FedEx) and DHL – and network expansion by the existing domestic players (such as Gati and Shreyas Shipping) have also contributed to the transformation of services and the business practices across this sector.

Value added services like inventory management, warehousing, packaging, labelling, tracking of shipments etc have witnessed huge demand from the corporate sector. The end-users of 3PL services include major players from the retail, auto components and the electronics industry.

The organised 3PL market in India can be categorised into three major segments – public sector, private sector and foreign entrants. Some of the major players in each category are as illustrated.

Public Sector Companies	Private Sector	Foreign Entrants
Transport Corporation of India	Gati	DHL
Container Corporation of India	Allcargo	Fed Ex
Food Corporation of India	Safexpress	Blue Dart
Central Warehouse Corporation	Reliance Logistics	TNT

Above section reports publicly reported information

Rapid growth of the warehousing sector

The role of a warehouse has also transformed from a conventional storehouse to an inventory management set-up with a greater emphasis on value added services. Warehouses now provide additional services like consolidation and breaking up of cargo, packaging, labelling, bar coding, reverse logistics etc. It has emerged as a critical growth driver, leading to large investments by logistics companies for the development of warehouses and logistics parks. Warehousing and related activities currently account for about 20 per cent of the total logistics industry. However, it is estimated that by 2010, this proportion would increase to approximately 35 per cent.

The traditional concept of establishing warehouses in the proximity of manufacturing facilities and raw material sourcing centres is also undergoing a transformation. Today, there is an increased trend of relocating warehouses near consumer markets.

Currently, the organised warehousing industry in India has a capacity of approximately 80 million metric tonnes (MT) and is growing at 35 to 40 per cent per annum. An investment of approximately US\$ 500 million is being planned by various logistics companies for the development of about 45 million square feet of warehouse space by 2012.

Around 3,500 acres of land will be developed into logistics parks at an investment of US\$ 1,000 million by 2012.

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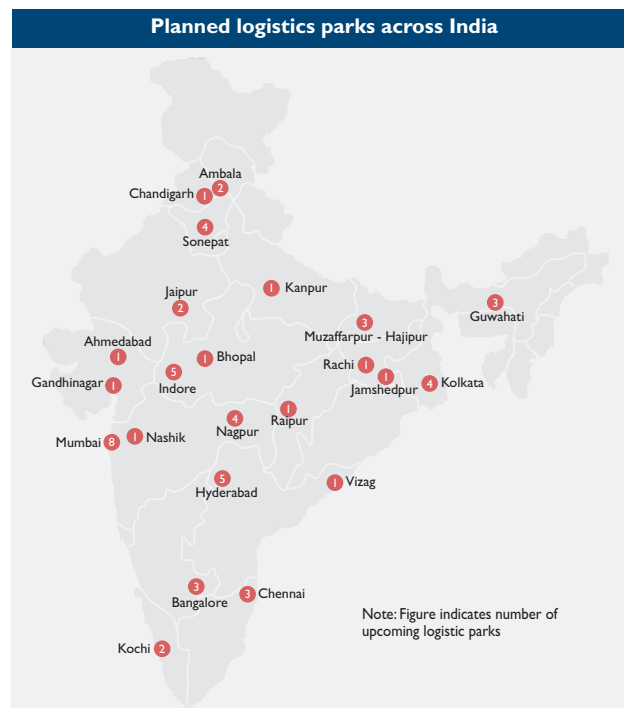
Logistics parks – One-stop shop for logistics needs

The concept of a consolidated logistics centre can be traced back to the Foreign Trade Policy of 2004, which led to the development of Free Trade Warehouse Zones (FTWZ). While FTWZ were aimed at facilitating import and export of goods, the need for a one-stop shop that could additionally cater to the domestic market led to the development of logistics parks as a part of the infrastructure industry in 2005-6.

A logistics park is a notified area that facilitates domestic and foreign trade by providing services like warehousing, cold storage, multi-modal transport facility, container freight stations etc. This area also acts as a place where a company can unload cargo for distribution, redistribution, packaging and repackaging. Majority of these logistics parks will be developed in the proximity of established and emerging industrial hubs in the country in order to tap their logistics needs.

Majority of logistics parks are located around SEZ for ensuring better supply chain management.

Logistics parks versus Free Trade and Warehousing Zone SEZs	
Logistics parks	Free Trade & Warehousing Zone SEZ
<ul style="list-style-type: none"> A logistics park is a special area that has warehouses, including a cold chain for perishables, and an area earmarked for automobiles and containers. These parks focus on the domestic markets. 	<ul style="list-style-type: none"> Free Trade & Warehousing Zones (FTWZ) are Special Economic Zones (SEZs) with a focus on trading and warehousing. They mainly cater to the international markets.
<ul style="list-style-type: none"> No specification laid on minimum built up area. 	<ul style="list-style-type: none"> Minimum area requirement for FTWZ is approximately 40 hectares.
<ul style="list-style-type: none"> Being part of the infrastructure industry, the incentive includes 22% tax exemption on income for continuous operations of 10 years. 	<ul style="list-style-type: none"> Incentives are the same as those given to SEZs
<ul style="list-style-type: none"> Logistics parks offer tax benefits only to developers. 	<ul style="list-style-type: none"> FTWZs offer tax benefits to both developers and tenants.
<ul style="list-style-type: none"> Majority of logistics parks are located around SEZ for ensuring better supply chain management. 	<ul style="list-style-type: none"> FTWZ is a special category of SEZ and is governed by the SEZ Act.



Source: Cushman & Wakefield Research

By 2012, around 110 logistics parks, spread over approximately 3,500 acres, are expected to come up across India at an estimated cost of US\$ 1 billion. Majority of the upcoming logistics parks are being planned in close proximity to state capitals. However, availability of large land parcels at relatively low cost, connectivity to multiple markets across states and proximity to industrial clusters has led to the emergence of some tier-2 and tier-3 cities as favoured destinations for the development of logistics parks and warehouses.

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INDIAN LOGISTICS INDUSTRY – A REGIONAL PERSPECTIVE

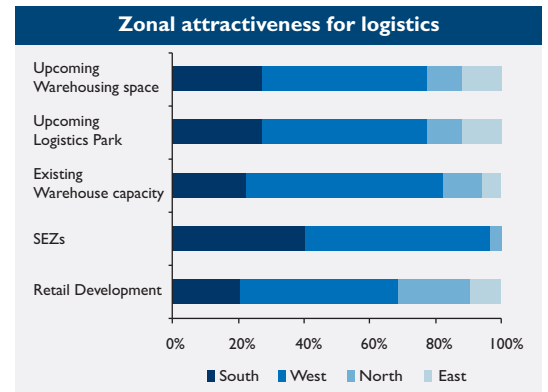
Industrial clusters in India can be broadly divided into four economic zones, based on the concentration of key industries like pharmaceuticals, auto and auto-components, textiles, machinery and electronic goods. The presence of these industries is likely to favourably impact the development of the logistics industries in these locations.

Major states that fall in these four economic zones are:

- North: Haryana, Himachal Pradesh, Delhi and Punjab
- West: Maharashtra Gujarat and Rajasthan
- South: Andhra Pradesh, Tamil Nadu and Karnataka
- East: Orissa and West Bengal

Western India (Maharashtra, Gujarat and Rajasthan) has emerged as the most prominent destination for the logistics industry. Upsurge in

the retail sector along with the fact that these states have several industrial clusters of textile, pharmaceutical, engineering and automobile industries will favourably impact the logistics sector in this region.



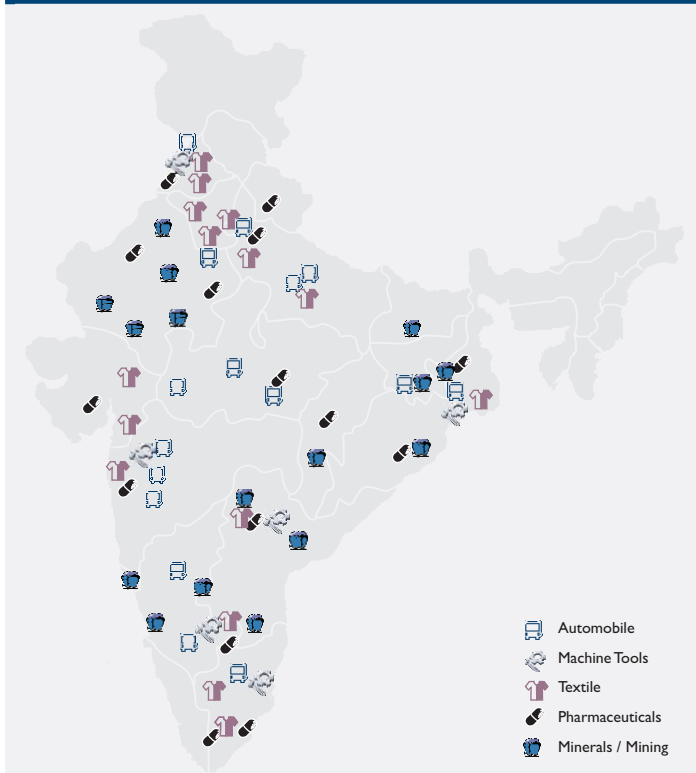
Source: Cushman & Wakefield Research

In western India (Maharashtra, Gujarat and Rajasthan), approximately 30,000 acres of land has been notified for the development of non-IT/ITeS SEZs. This should lead to increased demand for logistical services in the region.

Southern India (Andhra Pradesh, Tamil Nadu and Karnataka) is a key automobile and auto ancillary manufacturing market. Several SEZs are expected to come up in this region, including multi-product, automobile and textile SEZs. The presence of a booming pharmaceutical, auto-component and agro-input industry along with the presence of seven ports facilitating international trade are likely to give fillip to the logistics sector in southern India in near future.

Northern India (Haryana, Himachal Pradesh, Delhi and Punjab) is a well-established market for organised retail. Over the next two to three years, maximum supply of retail malls in the country will come up in northern India. Apart from textiles, the region also has major clusters of consumer goods and food processing industry. In addition to the Golden Quadrilateral, infrastructure development projects like the Delhi-Mumbai Industrial Corridor, Kundli-Manesar-Palwal Expressway and the Taj Expressway have led to the development of several warehousing hubs and inland container depots by the logistics sector.

Important manufacturing hubs of India



Source: FedEx and Cushman & Wakefield Research

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Eastern India (Orissa and West Bengal), an exploration hub, is rich in mineral deposits and has clusters of steel, consumer goods and textile industries. With increased emphasis being given to stepping up trade with China, West Bengal (which is also the gateway to north eastern states) is strategically poised to become a major logistics hub within this zone. Several logistics parks and Free Trade Warehouse Zones are being developed in this region so that the logistics requirements of ports (for international trade) and upcoming SEZs can be met.

LOCATION ATTRACTIVENESS ANALYSIS

A detailed analysis study of the existing and developing logistics infrastructure, manufacturing clusters and consumer markets has brought to fore key locations that would witness increased logistics activities. These locations can be classified as established, emerging, promising and nascent.

With increased emphasis being given to stepping up trade with China, West Bengal (which is also the gateway to north eastern states) is strategically poised to become a major logistics hub within this zone.



Source: Cushman & Wakefield Research

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Established hubs

These hubs offer excellent road, rail and sea port connectivity and are also witnessing significant investments in infrastructure. High penetration of organised retail, presence of industrial clusters and upcoming industrial projects and SEZs in and around these areas make these 'established' hubs all the more attractive. Major ports and existing logistical hubs – like Mumbai, Kolkata and Chennai – fall under this category.

Mumbai has emerged as the most-favoured location for the development of logistics parks. Investments of approximately US\$200 million has been planned towards the development of seven to eight logistics parks on approximately 600 acres of land around Mumbai.

Emerging hubs

Gurgaon, Vizag, Nagpur and Indore fall under this category since these hubs have a high potential, but lack the supporting infrastructure as of now. These hubs however have major infrastructure projects underway which are scheduled to be completed within the next three to five years. Infrastructural developments will make these hubs develop into attractive opportunities for logistics activities.

These 'emerging' logistics hubs are also characterised by high growth industries, connectivity with multiple markets and availability of large land parcels at relatively

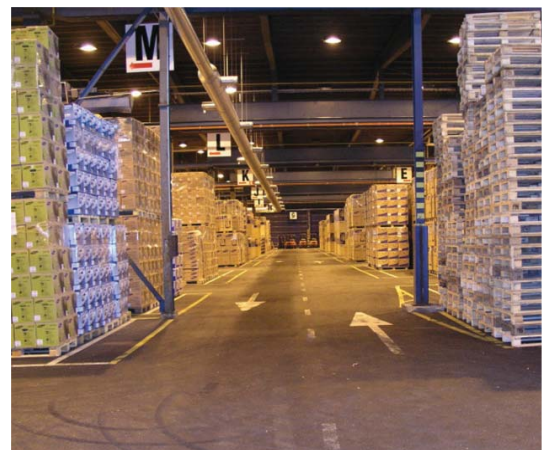
lower rates (as compared to the established hubs). They have also witnessed significant land transactions in last one year, involving logistics and warehousing projects.

Promising hubs

Promising hubs comprise of areas such as Jamshedpur, Alwar, Ahmedabad, Bangalore and Ambala and have considerable prospect of being developed into logistics hubs. Increase in manufacturing activities is bringing about a change in these areas and opening up opportunities for the logistics players. At present, these hubs have moderate presence of organised retail and an absence of multiple industries, though this scenario has begun to change in the last two to three years. Infrastructure in these hubs is still a challenge and needs to be enhanced in order to attract logistics players. These hubs are known for industries like oil and gas exploration, textile, oil and information technology.

Nascent hubs

Nascent hubs are marked by untapped market potential and limited infrastructure. The potential of these hubs is restrained by factors such as limited penetration of retail, lack of connectivity to multiple markets and the absence of multiple industries. Hubs like Kochi, an important tourist destination, fall under this category. Kochi has immense potential for growth due to the presence of an international airport and a port.



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KEY LOCATIONS FOR THE LOGISTICS SECTOR

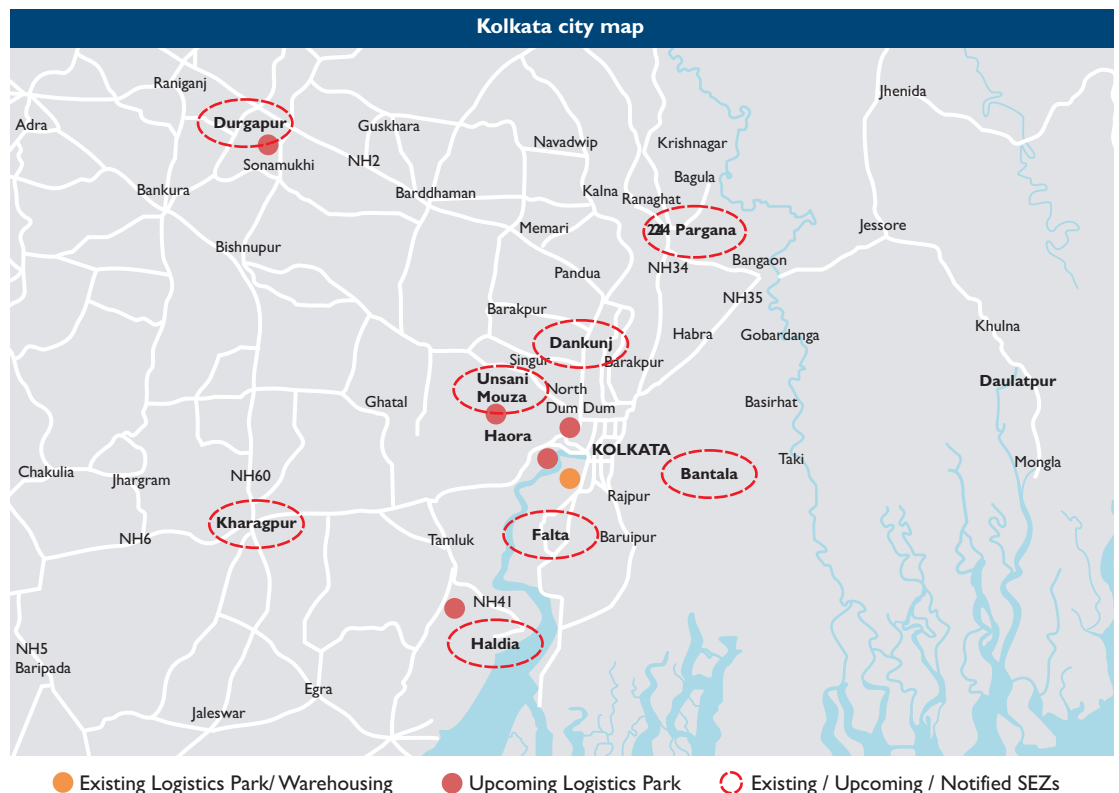
Kolkata

Kolkata is amongst the oldest port cities in the country and accounts for about 6 per cent of the total container traffic in India. Situated on the Golden Quadrilateral, Kolkata is well connected to other major cities of India by road and rail. It is also the gateway to the north-east Indian markets and a key location for trade with China. Proximity to textile and auto-component industry clusters and other manufacturing units has made Kolkata a major economic centre.

Ten Special Economic Zones (SEZs) in the proximity of Kolkata have received in-principal approvals. This will result in major demand for logistics in this region. As a result, centres like Haldia, Falta, 24 Pargana, Dankuni, Kharagpur, Bantala and Durgapur are expected to witness substantial logistics activities in the near future.

Major logistics infrastructure established/under construction in Kolkata:

- A 108-acre logistics park is being developed near Kolkata at Unsani Mouza, which is located at a strategic junction between three national highways (NH 2, NH 6 and NH 34). This logistics park, which is also accessible to north-eastern states, provides the possibility of domestic and global trade with China (via Nathu La pass).
- A logistics park of around 250 acre is proposed to be developed through a joint venture between Tata Realty and Infrastructure Ltd and Dubai-based Jafza International near Kolkata.
- An integrated logistics park spread over 72 acres is being developed at Haldia. Formal approval for the development of a 113-acre Free Trade Warehousing Zone at Haldia has also been received.
- There is a proposal to develop a supply chain and cargo hub at Durgapur.



Source: Cushman & Wakefield Research

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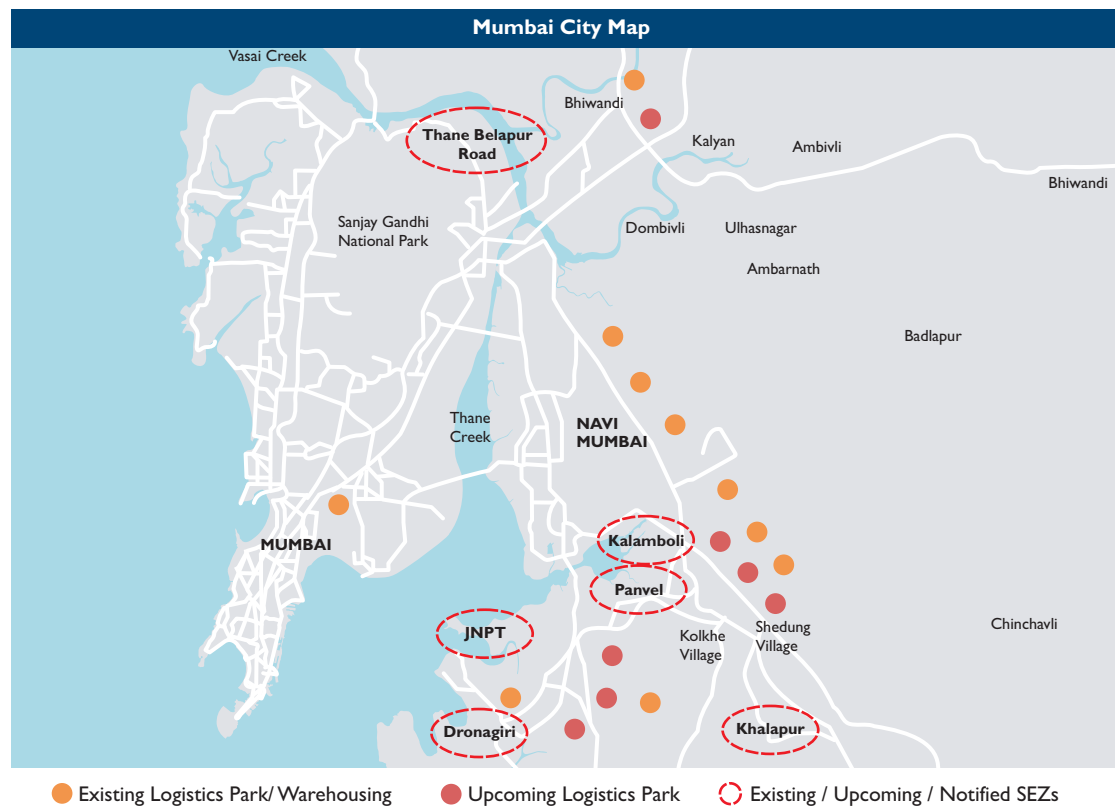
Mumbai

Mumbai, the commercial capital of India, has for long been an established logistical hub. Two major ports near Mumbai account for approximately 60 per cent of the container trade in the country. Mumbai also has the busiest airport in India in terms of cargo traffic. Several manufacturing clusters, focusing on machine tools, FMCGs, drugs and pharmaceuticals, are present in proximity of Mumbai. Bhiwandi is the largest warehousing location on the outskirts of Mumbai while Panvel is fast emerging as a warehousing cluster due to its proximity to the Jawaharlal Nehru Port Trust (JNPT) led by the availability of large land parcels. Demand for warehouse and logistics services are expected to accelerate further due to the scarcity of quality warehouses, increase in foreign trade and the upcoming Maha Mumbai Special Economic Zone.

Due to the growth in the logistics industry within the region, rentals are expected to witness an upward movement. Warehouse rentals in Panvel are expected to increase by 15 to 20 per cent over the next two years.

Major logistics infrastructure established / under construction in Mumbai:

- By 2012, eight logistics parks spread across 600 acres of land are expected to come up around Mumbai at an estimated cost of around US\$ 200 million.
- An in-principal approval has been received for two Free Trade Warehouse Zones at Panvel that will be spread across 270 acres.
- Approximately 20 medium to large container freight stations (CFS) are being developed along the Uran-JNPT road.



Source: Cushman & Wakefield Research

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Hyderabad

Hyderabad as a logistical hub provides excellent connectivity to large markets in southern and western India. In addition to having established clusters of textile and engineering firms, Hyderabad is also an important centre for the pharmaceutical industry. A large number of upcoming SEZs have necessitated the development of logistics for the domestic market as well as for global trade.

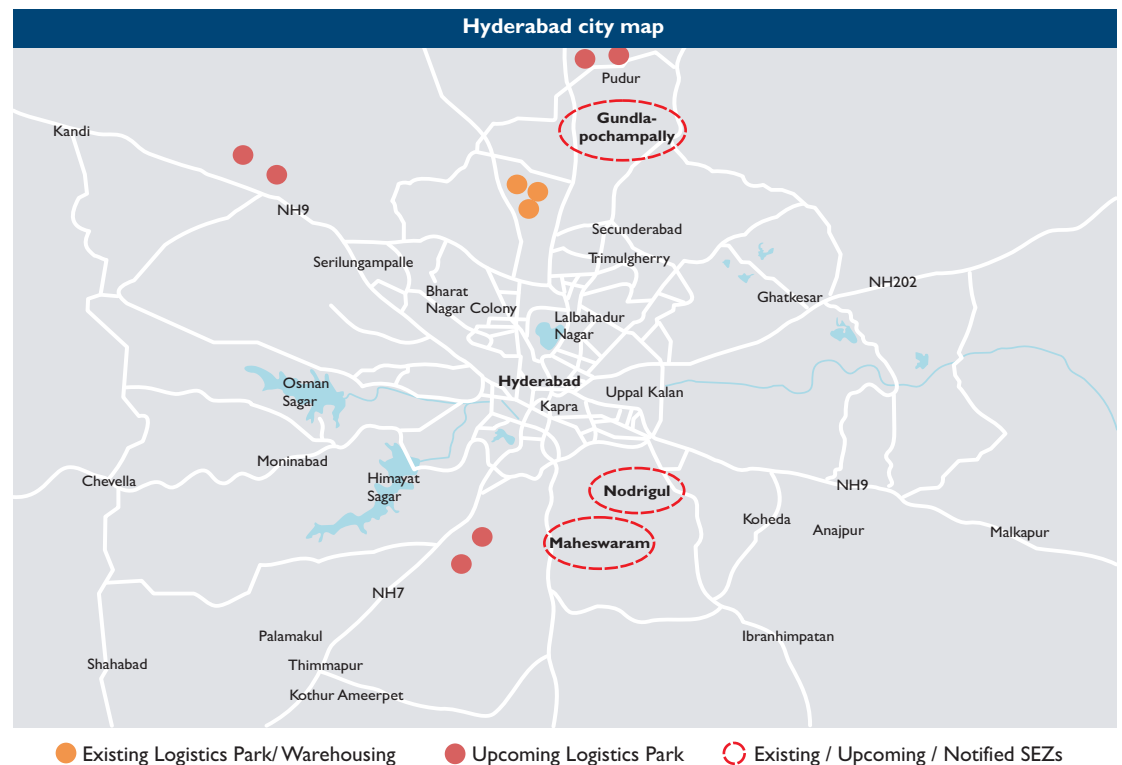
Jedimetla, Suraram and Sanat Nagar are existing warehouse hubs while Medchal Road along NH7, Patancheru to Sangareddy along NH9, Hyatt Nagar (near Ramoji City) and the outskirts of Shamshabad are upcoming locations for the logistics sector around Hyderabad.

Two apparel export parks, a Free Trade Warehouse Zone and several textile parks are being established in a 15 to 20 km radius of Hyderabad. Formal approval for a 300-acre electronic and biotech SEZ, a 1,500-acre mega industrial park at Pashamylaram and the proposed development of a hardware

technology park adjacent to the newly-commissioned Hyderabad International Airport will give further impetus to the growth of the logistics sector in this region.

Major logistics infrastructure established / under construction in Hyderabad:

- Five logistics parks, spread across 220 acres, are being developed by large, organised private logistics players. These parks are in various phases of development and are scheduled to be completed by 2010-12.
- By 2012, around 10 million square feet of warehouse space is expected to come up in this region. A formal approval has been received for the development of a 300-acre Free Trade Warehouse Zone near Hyderabad.
- The new greenfield international airport at Shamshabad near Hyderabad would enhance the existing cargo handling capacity of this region from 45,000 tonnes per annum to 1,00,000 tonnes per annum.



Source: Cushman & Wakefield Research

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Chennai

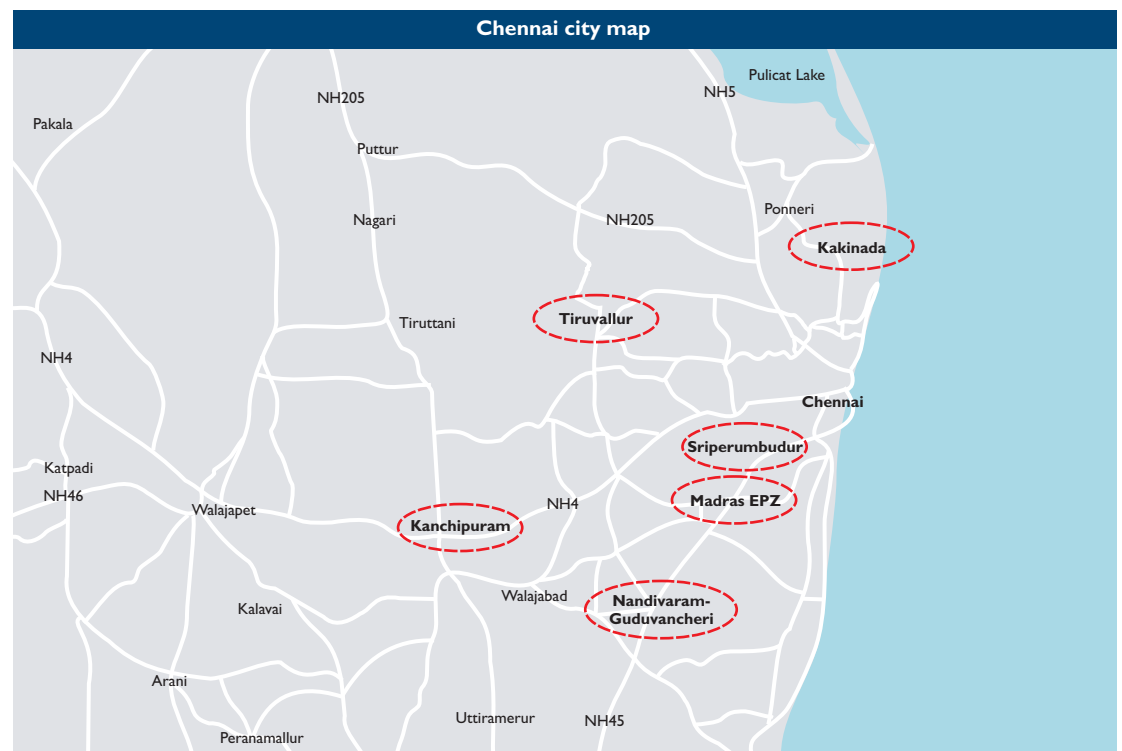
Chennai is the second largest port in terms of container cargo traffic. It's status as an emerging passenger car export hub has increased the importance of having a good logistics network in this region. Various manufacturing clusters focusing on textile, engineering goods and automobile components are also present in proximity to Chennai. With over 28 international cargo flights operating per week, Chennai is the best connected destination in southern India.

The prominent logistics hubs in Chennai are Madavaram, Poonamalle and Thiruvottiyur. They offer good connectivity to industrial locations, highways and sea ports.

Proximity to electronic and automobile component manufacturing clusters and good connectivity through NH 4 and NH 45 has led to the emergence of Sriperumbudur as a major logistics location. Kancheepuram, Oragadam and Tirvallur are the other upcoming logistics locations in close vicinity of Chennai.

Major logistics infrastructure established / under construction in Chennai:

- Six logistics parks spread across 240 acres are being developed in and around Chennai.
- A formal approval has been received for three Free Trade Warehouse Zones, spread over 900 acres.



Source: Cushman & Wakefield Research

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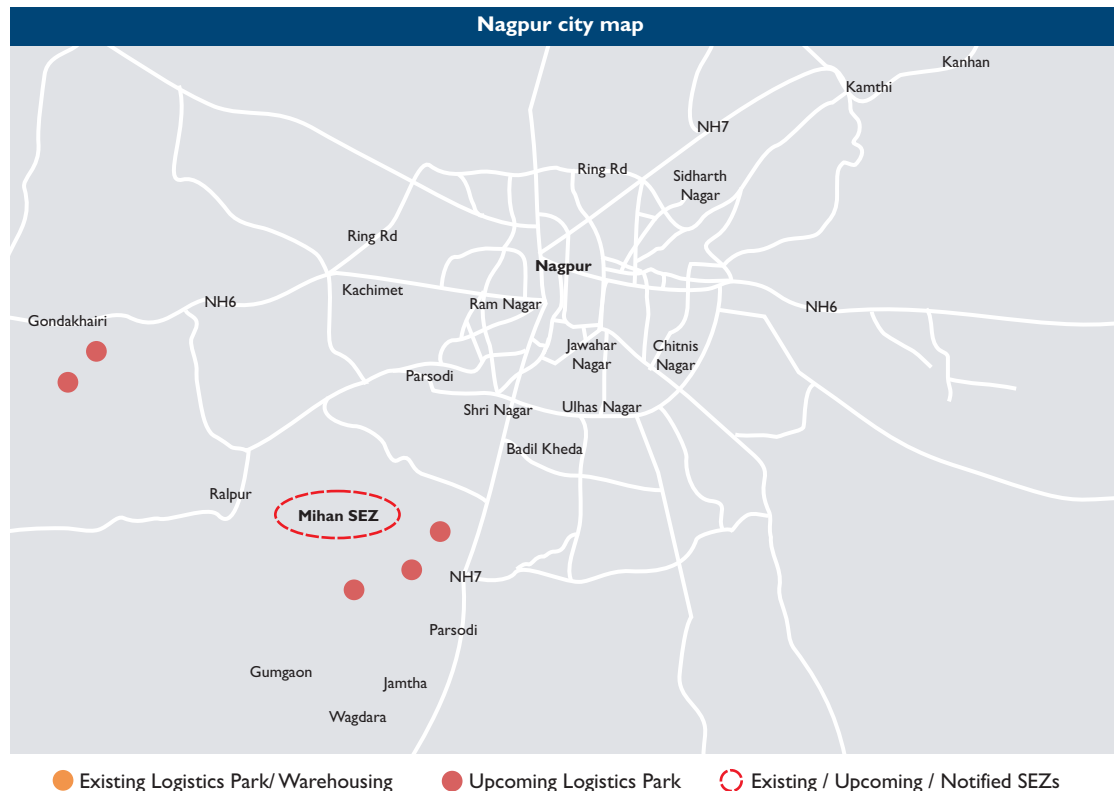
Nagpur

Nagpur is located strategically in the centre of India and is an ideal location for a 'hub-and-spoke' distribution model in the country. A major location along the North-South road corridor of the country, Nagpur is well connected to many state capitals by road and railways. Steps such as the gradual dissolution of taxes (and more specifically the central sales tax) and the ongoing infrastructure development will help Nagpur become the multimodal logistics hub of the country.

With the development of MIHAN, a multi-product SEZ, Nagpur will witness increased industrial and commercial activity in the near future, leading to increased demand for logistics services.

Major logistics infrastructure established / under construction in Nagpur:

- The Nagpur airport is being developed as India's first international air cargo hub.
- Six logistics parks spread across 240 acres are in various phases of development and are expected to be complete by 2012.
- A rail-based logistics park – spanning 60 acres with facilities to handle bulk and container cargo for domestic and foreign trade – is scheduled to be operational by 2009.
- A 148 acre logistic park with road and rail connectivity is proposed to be developed near Nagpur at an investment of US\$ 50 million.



Source: Cushman & Wakefield Research

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Vizag (Visakhapatnam)

Located on the Golden Quadrilateral, Vizag is one of the largest ports in terms of the volume of cargo it handles. Several state-owned heavy industries like steel plants, oil refinery and fertiliser plants are present in proximity of this city. The keen interest displayed by the Andhra Pradesh government to develop the Kakinada-Vizag belt as a Special Economic Zone would lead to higher demand for logistics services in this region. A 3,500-acre industrial park is proposed to be developed at Parawada, about 30 km from Vizag.

Major logistics infrastructure established / under construction in Vizag:

- A 20-acre central logistics hub that would provide end-to-end logistics solutions is being planned at an investment of US\$ 15 million at Atchutapuram near Vizag.
- There is a proposal to develop an SEZ in the Atchutapuram-Rambilli belt, about 50 km from Vizag. This would bring in substantial investments in logistics, since these locations will allocate space for logistic and warehousing development.



Source: Cushman & Wakefield Research

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Gurgaon

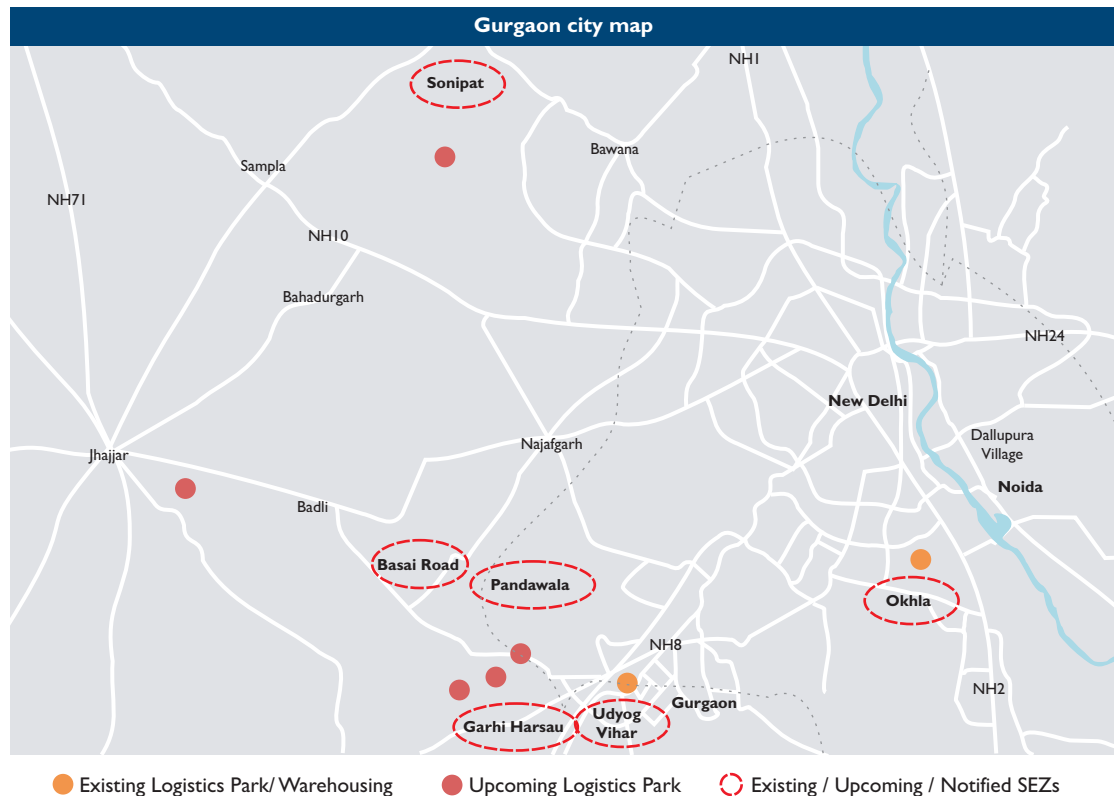
Gurgaon is ideally situated to cater to the logistics needs of the NCR and facilitate import-export traffic in the industrial areas of Haryana, north-Rajasthan and Punjab. Several auto-components manufacturers, electronics and general manufacturing clusters are situated in close proximity to Sonapat, which is strategically located on NH 1 and offers connectivity to NH 71, NH 24 and NH 58. The 135-km Kundli-Manesar-Palwal expressway under construction will connect major national highways and provide connectivity to Uttar Pradesh and Rajasthan.

Gurgaon has the advantage of being situated on the Golden Quadrilateral with easy access to the dedicated freight corridor giving it a clear advantage of developing a logistical hub. Further,

17 upcoming SEZs in locations around Gurgaon like Sonapat, Badli and Delhi, will strengthen Gurgaon's position as a prime logistical hub.

Major logistics infrastructure established / under construction in Gurgaon:

- The proposed development of India's largest multi-product SEZ spread across 2,500 acres between Garhi Harsuru and Badli will add additional space for warehousing and logistics.
- A 180-acre logistics park has been developed at Patli near Gurgaon.
- A 100-acre rail link logistics park with an inland container depot, container freight services and a warehouse complex is being developed at Garhi to connect the NCR with the ports in western India.



Source: Cushman & Wakefield Research

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Bangalore

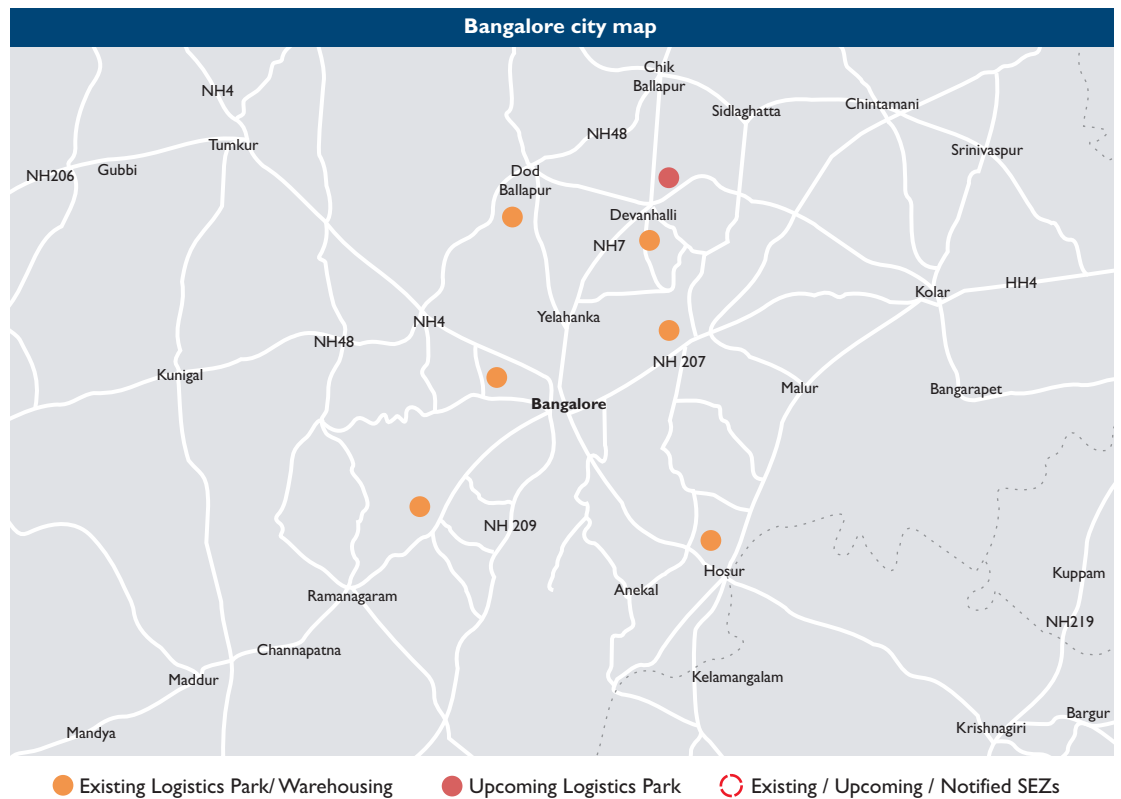
Bangalore (Bengaluru) lies on the Golden Quadrilateral and has excellent road, rail and airport infrastructure. Accessibility to the ports of Chennai and Cochin has led to emergence of Bangalore as an attractive hub for exports. In addition to the established manufacturing clusters of garments and textile, booming retail sector and an emerging biotechnology industry has increased the potential of logistics and warehousing sector in Bangalore.

Two notified Special Economic Zones (SEZ) catering to Biotechnology sector and upcoming

SEZs at neighbouring Hassan district are likely to further stimulate logistics and warehousing demand in Bangalore. Existing prominent warehouse locations in Bangalore includes Hoskote, Whitefield, Peenya, Doddaballapur, Hosur Road and Devanahali.

Major logistics infrastructure established / under construction in Bangalore:

- The development of a 7-acre cargo village at the new Bangalore airport near Devanahali.
- Four logistics parks, spread across 140 acres, are to be developed in various phases by 2012.



Source: Cushman & Wakefield Research

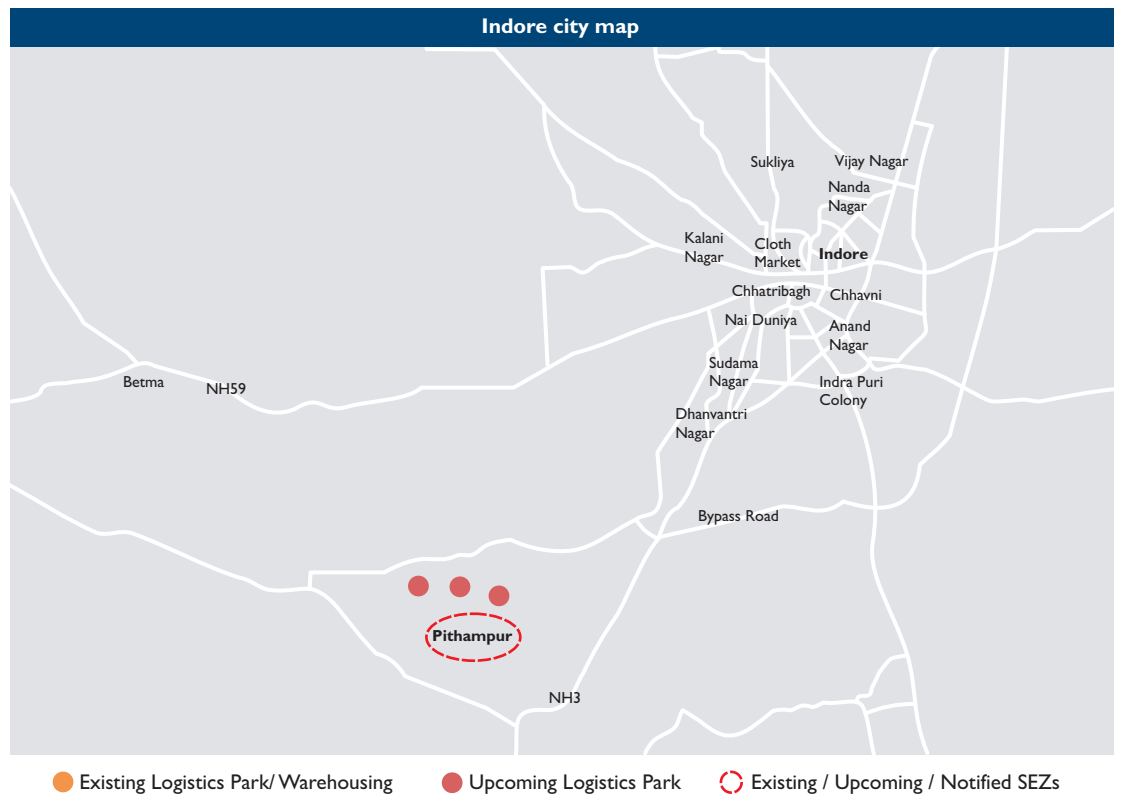
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Indore

Located in central India, Indore is connected to other parts of the country through NH 59 and NH 3. Indore is a prominent hub for automobile products, pharmaceuticals, textiles, food processing and heavy engineering. Indore which already has a planned 2,500 acres multi-product SEZ, is also the likely location for an additional 2,490 hectares of industrial cluster proposed by the Madhya Pradesh Audyogik Kendra Vikas Nigam Ltd (MPAKVN).

Major logistics infrastructure established / under construction in Indore:

- The development of a logistics park and the expansion of the existing container freight station at Pithampur have been proposed. Additionally, some logistics parks are being developed by private players.
- Inland container depots are under development at Pithampur (Indore) and Malapur (Bhopal).
- There is a proposal to develop 1.6 million metric tonnes of warehouse space through public private partnership.



Source: Cushman & Wakefield Research

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Alwar

Alwar is a prominent industrial location in Rajasthan and is strategically situated near NH8 and NH11. It is also well connected to the north Indian states of Punjab, Haryana, Uttar Pradesh and Himachal Pradesh.

Alwar is also located in close proximity to Bhiwadi, a rapidly industrialising region. Other industrial and investment regions like Jaipur, Dausa, Ajmer and Kishangarh make Alwar a potential location for warehousing and logistics development.

An export promotion industrial park at Tapukra and an upcoming SEZ at Khushkera are the

other significant developments taking place near Alwar. The development of a dedicated rail freight corridor and increase in trade through the ports of Kandla and Mundra have made Alwar a potential logistics hub.

Major logistics infrastructure established / under construction in Alwar:

- Alwar offers accessibility to ports through rail and roadways to landlocked north Indian states through Bhiwadi, an upcoming multi-modal logistics hub.
- The city has proximity to inland container depot and container freight stations at Rewari and Jaipur.



Source: Cushman & Wakefield Research

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Kochi

Kochi is one of the principal ports of India strategically located on one of the busiest maritime routes. Kochi is well connected to all major cities in southern India. It is well-connected to the hinterland by NH47, NH49 and NH17 and various rail links. The Kochi Port Trust has initiated several projects like an international bunkering terminal and a port-based SEZ that will necessitate the development of logistics services in Kochi.

The Kerala State Industrial Development Corporation (KSIDC) has acquired approximately 750 acres of land for the development of SEZs. Districts of Kannur, Kozhikode and Malappuram have been short-listed for SEZ development catering to the textile, healthcare and rubber product industries, all of which require efficient logistics support. These SEZs would benefit from the good accessibility provided by the Kochi port.

Formal approvals have been received for the development of 950-acre port-based SEZs in

Vallarpadom and Puthuvypeen. Several other infrastructural developments also make Vallarpadom and Puthuvypeen ideal locations for the development of logistics parks and warehouses.

Major logistics infrastructure established / under construction in Kochi:

- An international container transshipment terminal (ICTT) along with a Special Economic Zone (SEZ) with rail and road link support is being developed at Vallarpadom at an investment of US\$ 730 million. The container terminal, along with the SEZ, would promote logistics services like warehousing, packaging services and freight forwarding.
- Tata Realty and Jafza International have proposed to develop a 150-acre logistics park at an investment of approximately US\$ 75 million.
- An inland waterway connecting Kollam and Kottappuram is being developed by Inland Waterways Authority of India (IWAI).



Source: Cushman & Wakefield Research

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STEPS TO STREAMLINE THE LOGISTICS INDUSTRY

Setting up logistics parks in SEZs can improve India's competitiveness: Around 70 to 80 non-IT/ITeS SEZs have been notified in the country in order to cater to various sectors. These notified SEZs along with emerging economic corridors and industrial parks require efficient transportation and supply chain support, connectivity with various markets and other value-added services. Therefore, in order to ensure that SEZs operate successfully and improve India's competitiveness, logistics parks catering to an entire range of logistics infrastructure should be developed in emerging economic corridors and industrial parks.

A national logistics strategy can improve efficiency and lower costs: In order to achieve high customer service at low cost, India needs to formulate a national logistics strategy that encourages competition and facilitates participation by the private players. Such a strategy should aim at aligning diverse state and central government policies, set targets for the growth of this sector, chalk out roles for the public and the private sector, focus on infrastructure development and facilitate the entry of new players in the logistics industry.

Regulating the sector to bring about uniform service standards: Today, a wide gap exists in the services being offered and the pricing of various industry players. A regulatory authority that specifies minimum service standards and benchmarks pricing can be instrumental in establishing a uniform service standard in India's logistics and warehousing industry.

Granting industry status to logistics can address inefficiencies: Several inherent inefficiencies can be addressed by granting an industry status to the logistics and warehousing sector. This may also encourage public-private partnership and increase the government's focus on this sector. Such a step will also help in the consolidation of this industry and provide it better access to finance.

CONCLUSION

Amid a booming economy and a surge in demand for logistics and warehousing activities, many logistics companies are reinventing themselves and targeting at larger roles. With bottom-lines strengthening, the sector is attracting both public as well as private equity. This should help enhance the service offerings of the sector as well as help existing players diversify into new business areas.

Traditional Indian logistics players are now organising themselves in order to become more scalable both nationally and internationally. Analyst attribute this change to the ongoing retail boom in the country that is creating huge business opportunities, with the added advantage of being exposed to the latest technology in the field of logistics. The entry of global firms such as UPS, TNT, NV and DHL International GmbH has made domestic players more competitive and quality-conscious.

Over the next five year, 3,500 acres of land is scheduled to be developed as logistics parks and warehouses. Therefore, real estate decisions will play a crucial role in developing the competitive strength and enhancing the effectiveness of logistics players.

Historically, warehouses have been located in close proximity to primary markets. However, the abolishment of CST and an improvement in infrastructure would enable companies to re-align their supply chain and move closer to consumer markets. This changing business dynamics and evolving regulatory framework has given rise to new emerging locations. As a result, demand for real estate will no longer be restricted to only the existing primary logistics hubs in the country. Since almost one-third of the total realty development in the sector is expected to take place in emerging locations, many tier-2 and tier-3 cities that offer good connectivity to multiple markets will witness increased activity from logistics players, providing a thrust to the real estate market.

While we are witnessing rapid growth of the logistics and warehousing industry, a number of

Over the next five year, 3,500 acres of land is scheduled to be developed as logistics parks and warehouses. Therefore, real estate decisions will play a crucial role in developing the competitive strength and enhancing the effectiveness of logistics players.

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bottlenecks continue to restrain the development of this sector. India's transport network growth, for instance, is still not been able to keep pace with the country's booming economy. While several initiatives like rationalisation of taxes and investment in infrastructure have been undertaken, a lot remains to be done as far as organising and modernising this sector is concerned. Granting an industry status to logistics and warehousing sector, efficient implementation of infrastructure projects, simplification of the regulatory structure and availability of skilled manpower are critical to the growth of the Indian logistics industry.

Modern retail stores, supermarkets and hypermarkets can only be successful if they are backed by a robust logistics infrastructure. Similarly, India's dream of becoming a manufacturing hub to the world may well remain a dream if the logistics infrastructure does not keep pace with the growth in other sectors in order to enhance the country's existing cost arbitrage. In short, the growth of several industries and their cost-competitiveness vests squarely on the growth and development of the logistics and warehousing industry. An increased focus on this sector by both the government and the private players will go a long way in strengthening the 'India advantage' and helping the country achieve its foretold position of a super power.

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