



सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP



N·S·D·C
National
Skill Development
Corporation

Transforming the skill landscape

Human Resource and Skill Requirements in the Transportation, Logistics, Warehousing & Packaging Sector (2013-17, 2017-22)



cutting through complexity

This report is prepared by KPMG Advisory Services Pvt Ltd (KASPL).

KPMG is a global network of professional service firms offering Audit, Tax and Advisory services with presence in 152 countries and a combined strength of nearly 145,000 people. In India, the firm provides services to Government, Indian and International companies through offices in Mumbai, Delhi, Chandigarh, Bangalore, Hyderabad, Chennai, Pune, Kolkata, Kochi and Ahmedabad.

KPMG is one of the first professional services firms to align its services and professionals along industry verticals developing an intensive understanding of different industries, providing clients with an informed view on specific issues and a tailored service response. KPMG is the first advisory firm to establish a Centre of Excellence in Education in India providing holistic support in funding, structuring and consulting solutions across strategy, process, people and technology in the sector.

Narayanan Ramaswamy

Head – Education Advisory

KPMG India

(+91) 44 3914 5208

Email: narayanar@kpmg.com

Madhavan Vilvarayanallur

Director – Education

Advisory, KPMG India

(+91) 44 39145286

Email: vmadhavan@kpmg.com

Gaurav Kumar

Associate Director – Education

Advisory, KPMG India

(+91) 124 3345203

Email: gauravkumar1@kpmg.com

Disclaimer

NSDC engaged KPMG (KPMG Advisory Services Pvt. Ltd.) to prepare this report, which is based on independent research and analysis done by KPMG. This report is not based on, or derived from, any other report or research paper. Any similarity with any other paper may purely be a coincidence.

All rights reserved. All copyright in this report and related works is solely and exclusively owned by NSDC. The same may not be reproduced, wholly or in part in any material form (including photocopying or storing it in any medium by electronic means and whether or not transiently or incidentally to some other use of this presentation), modified or in any manner communicated to any third party except with the written approval of NSDC.

This report is for information purposes only. While due care has been taken during the compilation of this report to ensure that the information is accurate to the best of KPMG's and NSDC's knowledge and belief, the content is not to be construed in any manner whatsoever as a substitute for professional advice.

KPMG and NSDC neither recommend nor endorse any specific products or services that may have been mentioned in this report and nor do they assume any liability or responsibility for the outcome of decisions taken as a result of any reliance placed in this report.

Neither KPMG nor NSDC shall be liable for any direct or indirect damages that may arise due to any act or omission on the part of the user due to any reliance placed or guidance taken from any portion of this report.

Acknowledgement

We are grateful to the Government of India and its various departments, State Governments, Industry Associations, Sector Skill Councils, Skill Training Institutions, Academia and NGOs, for their contribution towards the successful completion of the Sector Skill Gap study (2013-2017, 2017-2022).

We would like to thank all NSDC's industry and training partners for their active participation. The success of the study has been possible through their collaborative efforts.

In addition, we convey our gratitude to all those who have, in some way or other, contributed towards the successful completion of this study.

Executive Summary

Industry Overview

Rising investment, rapidly evolving regulatory policies, mega infrastructure projects and several other developments in recent times have driven the Indian logistics market

Key Growth Drivers

Transport and Logistics sub-sector

- 52 percent of the logistics activities currently outsourced and growing rapidly
- Thrust on marquee projects — dedicated freight corridors, DMIC, JNPT container terminal, inland waterways
- Resurgence in manufacturing activities and emergence of organised retail
- GST to be implemented in the next few years

Warehousing sub-sector

- Rapid growth in organised retail, e-commerce, QSR, containerisation, etc.
- Evolution from pure-play traditional service provider's domain to a range of hi-end 3PL and 4PL players
- 100 percent FDI through automatic route
- Rising domestic consumption and increased demand from farmers; rising EXIM trade

Packaging sub-sector

- FMCG expected to grow at over 12 percent CAGR during 2010–2020
- Increasing income levels among consumers makes product affordable and hence, provides scope for innovative packaging to attract consumers to purchase the product.
- Food and beverage, which contributes 85 percent of total packaging user segments, is the biggest driving force

- Rising investment, rapidly evolving regulatory policies, mega infrastructure projects and several other developments in recent times have driven the Indian logistics market, simultaneously, also overcoming infrastructure-related constraints and logistics-centric inefficiency. While traversing this road to development, multiple projects and services have been either at the planning or implementation stage. Such developments have spanned across all modes of transportation and logistics services and have involved active participation from all stakeholders.
- A majority of players in road transportation, which contributes significantly to the transport and logistics sector, have been small entrepreneurs running family-owned businesses. Given their small scale and limited investment capability, most of their investments have been focused on short-term gains — direct and immediate impact on the top line/bottom line of the business being the key decision criterion. As a result, investments that pay off in the longer term, such as those in manpower development, have been minimal historically. Moreover, these businesses are typically tightly controlled by the proprietor and proprietor's family making it unattractive for professionals.
- Poor working conditions, low pay scales relative to alternate careers, poor or non-existent manpower policies and prevalence of unscrupulous practices have added to the segment's woes creating an image of the segment that holds few attractions for those seeking employment.
- While industry players have been incapable of investing in manpower development, the government has also given it inadequate attention. There are very few formal training institutions; however, recent initiatives taken by CII — Institute of Logistics — and logistics-focused courses taught at management institutes are some steps in the right direction.
- With more organised approach towards transport and logistics activities due to emergence of global third-party logistics (3PL) players, the demand for trained employees with specific skill sets is expected to increase in the near future.

Sources: KPMG in India analysis

Demographic characteristics of workforce

Employment clusters identified from current sector level skill gap study*



- The study of employment clusters indicates the emergence of focus geographies for skill development, such as Bangalore.
- While the overall industry does not have clearly defined clusters, sub-sectors, such as warehousing and logistics, have focused clusters around metro regions.
- The districts with maximum employment in the transportation and logistics sector as identified by the NSSO 68th Round Survey are Mumbai, Kolkata, Hyderabad, Delhi and Ahmedabad
- The high growth clusters as identified by NSDC skill gap studies are Mumbai, Kolkata, Hyderabad, Ahmedabad and Bangalore, Surat and Indore.

**Existing employment clusters identified based on NSSO 68th Round (2011–12) and NSSO 67th Round (2010–11) employment-unemployment surveys*

Skill Requirements in the industry

Packaging

- Increase in retail and other allied services creating need to modernize the workforce through up-skilling
- Training in technological changes is a critical skill requirement which could help reduction of costs

Courier services

- The express and courier service in India has been growing at a rapid pace and will outperform the other segments
- Availability of human resource pool is not seen as a challenge considering the flexibility of working hours which attracts part-time employees

Warehousing

- Lower levels of the organizations face high attrition levels though this problem is offset by plenty of cheap and available labour
- Higher levels of operations require well-trained professionals in supply chain and logistics operations

Incremental human resource requirement (2013-17, 2017-22) and skill gaps

Workforce is expected to reach 28.40 million by 2022

- The sector currently employs over 16.74 million employees and is slated to employ more than 28.4 million employees by 2022. This implies additional creation of ~11.7 million jobs in the nine-year period.
- The period 2013–17 will see a marginally higher growth in employment vis-a-vis 2017–22 due to expected increase in level of automation in logistics and warehousing operations leading higher productivity levels of workforce.

	Employment (in Million)			Employment growth 2013–17	Employment growth 2017–22
	2013	2017	2022	(In million)	(In million)
Courier services	0.23	0.30	0.36	0.07	0.06
Packaging	0.22	0.26	0.30	0.04	0.04
Passenger railways	0.83	1.11	1.35	0.28	0.24
Passenger transport roadways	9.10	12.59	15.60	3.49	3.01
Rail freight	0.13	0.18	0.22	0.05	0.04
Road freight	5.79	7.99	9.88	2.20	1.90
Warehousing	0.43	0.57	0.69	0.14	0.12
Total	16.74	23.00	28.40	6.26	5.41

Workforce level	Common skill gaps
Entry-level — (Truck/bus drivers, fork lift operators, commercial vehicle drivers, warehouse supervisor, logistics administrator, invoicing clerk, courier sorter and warehouse picker)	<ul style="list-style-type: none"> ▪ Gaps in core technical skills ▪ Knowledge of associated issues — VAT, loading supervisory skills etc. ▪ Sanitation and hygienic issues due to inadequate knowledge about the health issues
Middle-level (Inventory controller, transport scheduler, import / export officer, shift supervisor, logistic supervisor, warehouse supervisor, IT Officer)	<ul style="list-style-type: none"> ▪ Gaps in leadership/supervision skills leading to efficiency and monitoring issues ▪ Gaps in good basic management practices — not attractive for professionals; basic in-house experience-driven skills with no formal infrastructure to impart skills; lack of specialised knowledge of best warehousing practices
Top-Level (Warehouse manager, operations manager, purchasing manager, supply chain manager, inventory analyst, contract manager, import/export manager)	<ul style="list-style-type: none"> ▪ IT skills, data and analytic skills for systems and solutions that are both digital and physical ▪ Ability to work with both the mechanical and digital aspects of complex integrated products and services — both in the servicing them and in the development of new solutions ▪ Lack of leadership

Select training infrastructure for the sector

Name	Locations
Indian Institute of Management (IIMs)	Various
CII — Institute of Logistics	Chennai and in various places
National Institute of Logistics and Material Management, Udaipur (Rajasthan)	Udaipur
Indian Institute of Materials Management, Chennai (Tamil Nadu)	Chennai
Karunya School of Business, Leadership and Management, Coimbatore (Tamil Nadu)	Coimbatore
St. Xaviers College (SXC), Kolkata (West Bengal)	Kolkata
Institute of Logistics and Aviation Management (ILAM), Mumbai (Maharashtra)	Mumbai
Institute of Logistics and Aviation Management (ILAM), Bangalore (Karnataka)	Bengaluru
Southern Academy of Maritime Studies, Thiruvallur (Tamil Nadu)	
Global School of Foreign Trade, Madurai (Tamil Nadu)	Madurai
Guiders Academy, Kochi (Kerala)	Kochi
Indian Institute of Logistics, Kochi (Kerala)	Kochi
Ashok Leyland — DTIs	Namakkal, Burari, Chhindwara, Kaithal, Bhubaneswar
Tata Driving School	Various
Volvo truck training	Bengaluru
CRISIL	Various

- Institutes offer a wide variety of courses, which includes undergraduate, postgraduate, diploma and certificate courses in areas, such as supply chain management, warehousing and transportation.
- Innovative training techniques and methods should be thought off to better manage and up skill the manpower to meet the changing needs of the industry.
- Specialised training institutes that cater to the needs of the industry should be developed and focussed on skilling of manpower.
- Technical courses for packaging and the new development technologies should be addressed with the combined efforts with the industry.
- Though few industries have come in to cater to the key requirements in the road segment, some segments — warehousing, supply chain and packaging — have not been specialised.

Recommendations

Select recommendations & implications

Recommendation	Implications
Consolidation, integration and organisation of industry	<ul style="list-style-type: none"> ▪ Though certain large players have gone in for consolidation by taking over smaller players, it becomes of prime importance for the industry to move from unorganised to organised. ▪ Initiatives by the government for continued liberalisation of foreign investment will enable MNCs establish larger scale and best practice-driven outsourced logistics.
Customisation and development of processes and systems	<ul style="list-style-type: none"> ▪ A successful supply chain shares data between multiple parties — manufacturers, customs departments, logistics providers and retailers. ▪ Industry should take initiatives in the development of processes and systems to basically control costs, streamline the existing processes to ensure efficient flow of operations and monitoring of process. ▪ The high performers have moved well beyond using IT merely as an enabler of internal process management. Instead, they leverage their proprietary customer-facing technologies to empower their customers. The ability to develop more 'intelligent' services, more dynamic planning and increased alignment with customers' operations and processes will be important to the ongoing success.
Initiatives to make the Industry lucrative to attract more manpower	<ul style="list-style-type: none"> ▪ Greater investment is required from industry players in employee welfare and ensuring the basic safety systems are in place. ▪ A closer look at pay and progression policies is also warranted given that the growth and profitability outlook for the industry is positive, sharing the benefits of growth with employees would be important. ▪ While implementing these improvement initiatives is critical, it is equally important to communicate improvements to the target group of recruits. This exercise can be effectively carried out by industry associations in respective segments in association with external advertising agencies. ▪ Formulate policies to encourage training spend by the companies. Create directions to improve work conditions in the sector.
Government initiatives to develop infrastructure for the growth of the industry	<ul style="list-style-type: none"> ▪ Development of enabling infrastructure will create the base for achievement of greater scale efficiencies. ▪ Encouragement of public private partnerships will ensure a faster pace of enabling infrastructure development.

Table of Contents - Detailed Report

S. No	Section	Page
1.	Context and approach	6
2.	Industry classification	8
3.	Industry overview	13
4.	Transport and Logistics sub-sector	15
4.1	Evolution of logistics services	16
4.2	Value chain of transport and logistics services	17
4.3	Global comparison	18
4.4	Structure	20
4.5	Logistics market overview	21
4.6	Contract logistics	22
4.7	Production hubs for 3PL services	23
4.8	Freight forwarding market size and structure	24
4.9	Key markets for freight forwarding service	25
4.10	Express logistics	26
4.11	Air segment	27
4.12	Rail segment	28
4.13	Road segment	29
4.14	Inland water and coastal shipping segment	30
4.15	Growth drivers	31
4.16	Key enablers	32

Table of Contents - Detailed Report

S. No	Section	Page
4.17	Government policies and initiatives	33
4.18	SWOT analysis	35
5.	Warehousing sub-sector	37
5.1	Overview	38
5.2	Evolution and value chain	39
5.3	Structure and size	40
5.4	Tax structure and infrastructure	41
5.5	Market demand	42
5.6	Geographical location of warehouses	43
5.7	Global comparison	44
5.8	Container Freight Station(CFS)/Inland Container Depot (ICD)	45
5.9	Geographical distribution of CFS/ICDs	46
5.10	Cold chain	47
5.11	Growth drivers	49
5.12	Government policies and initiatives	50
5.13	SWOT analysis	52
6.	Packaging sub-sector	54
6.1	Overview	55
6.2	Market size and structure	56
6.3	Global comparison	58
6.4	Growth drivers	59

Table of Contents - Detailed Report

S. No	Section	Page
6.5	Government policies and initiatives	60
6.6	SWOT analysis	61
7.	Incremental human resource requirements (2013-17, 2017-22) and skill gaps	62
7.1	Skill gap analysis across levels in sub-sectors	63
7.2	Employment clusters	64
7.3	Employment figures across sub-sectors	65
7.4	Workforce requirement across sub-sectors	66
7.5	Skill set requirements across levels	70
8.	Training infrastructure	75
9.	Recommendations for stakeholders	77

Abbreviations

CAGR	Compounded Average Growth Rate
CFS	Container Freight Station
CII	Confederation of Indian Industries
EXIM	Export Import
FDI	Foreign Direct Investment
FFW	Freight Forwarding
FTWZ	Free Trade Warehousing Zones
FY	Financial Year
FYP	Five Year Plan
GDP	Gross Domestic Product
GoI	Government of India
GST	Goods and Services Tax
ICD	Inland Container Depot
IT	Information Technology
INR	Indian National Rupee
MFP	Mega Food Parks
MMLP	Multi-Modal Logistics Parks
NHDP	National Highways Development Programme
NIC	National Industry Classification
NSDC	National Skill Development Corporation
NSQF	National Skills Qualification Framework
NVOCC	Non Vessel Owning Common Carrier
PPP	Public-Private Partnership
QSR	Quick Service Restaurant
SSC	Sector Skill Council
TEU	Twenty Foot Equivalent Unit
USD	United States Dollar
VAS	Value-Added Services
VGf	Viability Gap Funding
WMS	Warehouse Management Systems
YoY	Year on Year

Context and approach

<p>Brief background</p>	<p>NSDC had conducted sector-wise skill gap studies for 19 high priority sectors in 2008–09 .</p> <ul style="list-style-type: none"> ▪ KPMG has been engaged as a consultant to help evaluate the skill gap across 25 sectors and develop actionable recommendations for its stakeholders. ▪ Mandate includes sector and sub-sector level analysis, demand-supply projection, estimation of incremental man-power requirement between 2013-2017 and 2017-2022, identification of key-employment clusters, and SWOT analysis of each sector ▪ Study also aims to take qualitative insights from stakeholders on enablers and challenges for each sector, way forward in terms of specific policy level actionable recommendations,
<p>Inclusions over the previous study</p>	<ul style="list-style-type: none"> ▪ Study led by industry – Sector Skill Councils and a panel of professionals from different sub-sectors were consulted for their inputs on industry trends, key takeaways in terms of skill requirement, qualitative insights to understand specific interventions required for each sector and to validate the quantitative results and recommendations ▪ 6 sectors were added to the list of NSDC priority sectors for studying the skill gaps <p>Updated study also includes</p> <ul style="list-style-type: none"> ▪ Identification of top 20 job-roles in each sector, case studies around good training practices, sub-sector level indicators and growth factors ▪ Study also includes understanding of existing training infrastructure, work-force characteristics and employment clusters, ▪ Macro economic factors, central and state governments policies and their envisaged impact ▪ Synchronisation of the sector wise demand from the district level skill gap studies ▪ Recommendations for key stakeholders - Industry, NSDC, Training organizations and Government ▪ Environment scans every year till 2015-16 including SWOT analysis for the sector

Industry classification

Division 49: Land transport and transport via pipelines	
491 Transport via railways	
4911 Passenger rail transport	Passenger transport by inter-urban railways, operation of sleeping cars or dining cars as an integrated operation of railway companies 49110 Passenger rail transport
4912 Freight rail transport	Freight transport by inter-urban, suburban and urban railways 49120 Freight rail transport
492 Other land transport	
4921 Urban or suburban passenger land transport	Land transport of passengers by urban or suburban transport systems. The transportation is carried out on scheduled routes normally following a fixed time schedule, entailing the picking up and setting down of passengers at normally fixed stops. 49211 Urban or suburban passenger bus transport (excluding chartered bus) 49212 Urban or suburban tramways 49213 Urban or suburban underground or elevated railways 49219 Other urban or suburban passenger transport
4922 Other passenger land transport	Land transport not operated on scheduled routes 49221 Long-distance bus services 49222 Charters, excursions and other occasional coach services 49223 Rental of private cars with driver 49224 Taxi operation 49225 Operation of school buses and buses for transport of employees 49226 Passenger transport by man–or animal-drawn vehicles 49229 Other non-urban passenger land transport
4923 Freight transport by road	49231 Motorised road freight transport 49232 Non-motorised road freight transport
493 Transport via pipeline	
4930 Transport via pipeline	Transport of gases, liquids, water slurry and other commodities via pipelines, including operation of pump stations 49300 Transport via pipeline
Division 50 : Water transport	
501 Sea and coastal water transport	
5011 Sea and coastal passenger water transport	50111 Sea and coastal ferry service 50112 Sea and coastal water cruise, water taxis and other sight seeing boats 50113 Sea and coastal long-distance water transport 50119 Other sea and coastal water transport
5012 Sea and coastal freight water transport	Transport of freight over seas and coastal waters, whether scheduled or not, transport by towing or pushing of barges, oil rigs etc. 50120 Sea and coastal freight water transport

Industry classification

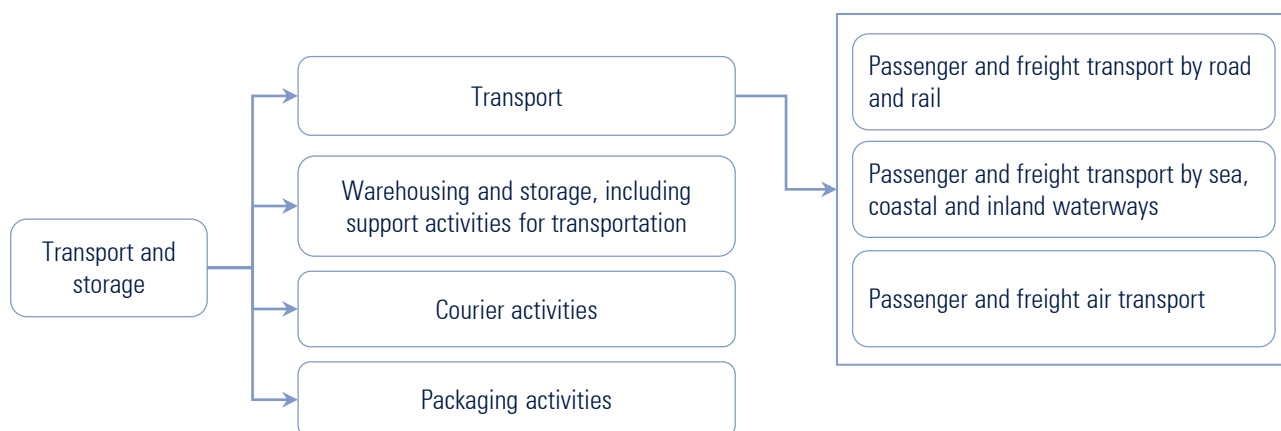
Sector and sub-sectors as per NIC classification

Division 50: Water transport (contd.)	
502 Inland water transport	
5021 Inland passenger water transport	50211 River ferry service
	50212 River cruise, water taxi, boat services
	50213 Long distance river water transport
	50219 Other inland water transport
5022 Inland freight water transport	Transport of freight via rivers, canals, lakes and other inland waterways, including inside harbours and ports
	50220 Inland freight water transport
Division 51: Air transport	
511 Passenger air transport	
5110 Passenger air transport	51101 Passenger airways
	51102 Helicopter services
	51109 Other passenger air transport
512 Freight air transport	
5120 Freight air transport	51201 Freight air transport services
	51202 Launching of satellites and space vehicles and space transport
Division 52 : Warehousing and support activities for transportation	
521 Warehousing and storage	
5210 Warehousing and storage	52101 Warehousing of refrigerated (cold storage)
	52102 Warehousing non-refrigerated
	52109 Storage and warehousing [Includes general merchandise warehouses and warehousing of furniture, automobiles, gas and oil, chemicals, textiles etc. It also includes storage of goods in foreign trade zones.]
522 Support activities for transportation	
5224 Cargo handling	52241 Cargo handling incidental to land transport
	52242 Cargo handling incidental to water transport
	52243 Cargo handling incidental to air transport
5229 Other transportation support activities	52292 Activities of shipping cargo agents
	52293 Activities of movers and packers
	52294 Weighing of goods
Division 53: Postal and courier activities	
532 Courier activities	
5320 Courier activities	Includes courier activities not operating under a universal service obligation
	53200 Courier activities

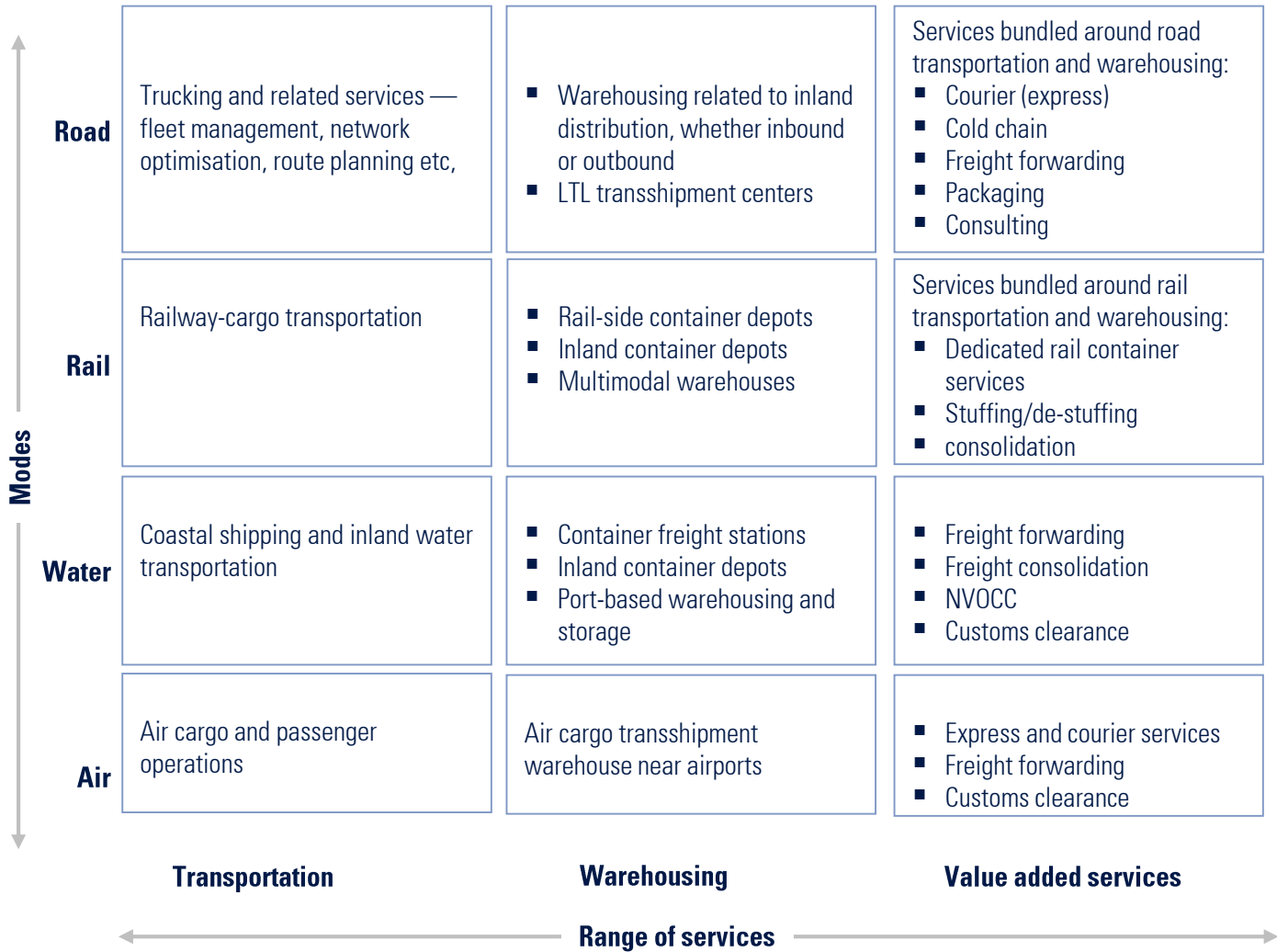
Source: NIC Classification, 2008

Division 82: Office administrative, office support and other business support activities	
8292 Packaging activities	Packaging activities on a fee or contract basis, whether or not these involve an automated process
	82920 Packaging activities
Division 52 : Warehousing and support activities for transportation	
522 Support activities for transportation	
5221 Service activities incidental to land transportation	52211 Car parking including motorcycle and bicycle parking
	52212 Support service at railway stations, bus stations, bridges etc.
	52213 Switching and shunting
	52219 Other land transport services
5222 Service activities incidental to water transportation	Operation of terminal facilities such as harbours and piers, operation of waterway locks, navigation, pilotage and berthing activities, lighterage, salvage activities, lighthouse activities
	52220 Service activities incidental to water transportation
5223 Service activities incidental to air transportation	Operation of terminal facilities such as airway terminals, airport and air-traffic control activities, ground service activities on airfields etc.
	52231 Activities related to air transport of passengers, animals or freight
	52232 Fire-fighting and fire-prevention services at airports
5229 Other transportation support activities	52291 Activities of travel agents and tour operators
Division 53: Postal and courier activities	
531 Postal activities	
5310 Postal activities	This class includes national postal activities (53100 Postal activities)

Major sub-sectors and sub-segments



Industry classification for transport, logistics, warehousing and packaging



Industry overview

- The Indian transportation and logistics industry is poised at a crossroad along its growth trajectory even as the ongoing global economic uncertainty which has been impacting the Indian market to an extent. However, driven by strong fundamentals and consistent demand, the resilient Indian economy, in general and, the logistics sector in particular, are seemingly well-positioned to sail through turbulent global economic uncertainty.
- Rising investment, rapidly evolving regulatory policies, mega infrastructure projects and several other developments in recent times have driven the Indian logistics market, simultaneously, also overcoming infrastructure-related constraints and logistics-centric inefficiency. While traversing this road to development, multiple projects and services have been either at the planning or implementation stage. Such developments have spanned across all modes of transportation and logistics services and have involved active participation from all stakeholders.
- A majority of players in road transportation, which contributes significantly to the transport and logistics sector, have been small entrepreneurs running family-owned businesses. Given their small scale and limited investment capability, most of their investments have been focused on short-term gains — direct and immediate impact on the top line/bottom line of the business being the key decision criterion. As a result, investments that pay off in the longer term, such as those in manpower development, have been minimal historically. Moreover, these businesses are typically tightly controlled by the proprietor and proprietor's family making it unattractive for professionals.
- Poor working conditions, low pay scales relative to alternate careers, poor or non-existent manpower policies and prevalence of unscrupulous practices have added to the segment's woes creating an image of the segment that holds few attractions for those seeking employment.
- While industry players have been incapable of investing in manpower development, the government has also given it inadequate attention. There are very few formal training institutions; however, recent initiatives taken by CII — Institute of Logistics — and logistics-focused courses taught at management institutes are some steps in the right direction.
- With more organised approach towards transport and logistics activities due to emergence of global third-party logistics (3PL) players, the demand for trained employees with specific skill sets is expected to increase in the near future.

Private sector participation

- Increased participation from private players in segments, such as rail transport and coastal shipping
- Higher private investments proposed for infrastructure development of road, airports, etc. in the 12th Five-Year Plan

Evolving services

- Emergence of specialised services, such as liquid logistics and cold chain
- Majority of growth expected from these services beyond traditional services and basic transportation services

Advantage transport and logistics

Increased outsourcing

- More companies willing to outsource their logistics operations to focus on their core activities
- Emergence of global 3PL companies expected to drive outsourcing of transport and logistics activities

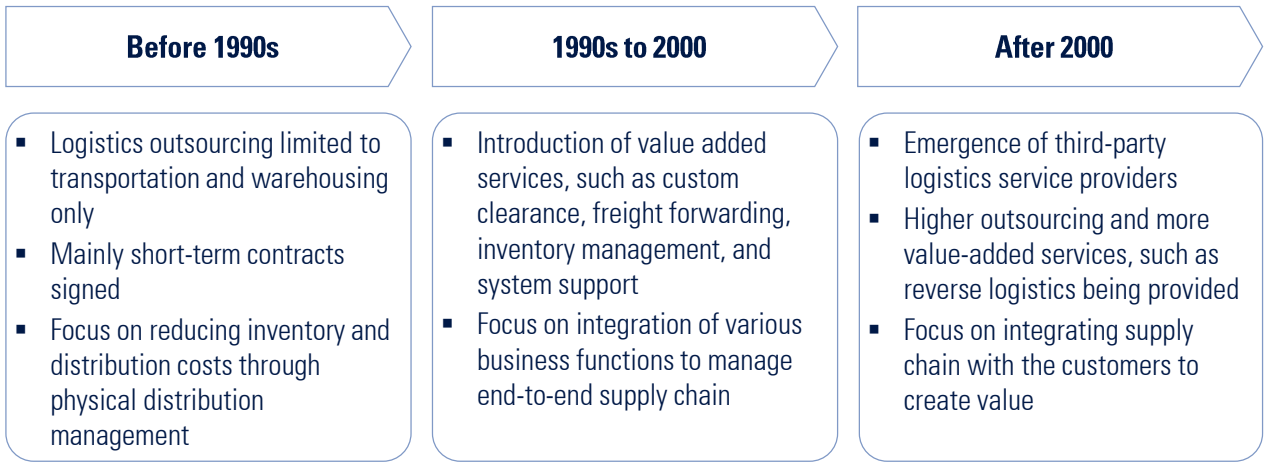
Maturing end users

- Growth of organised retail and other sectors that require transport and logistics services
- Requirement of value-added services with rising foreign player participation in user segments such as the organised retail

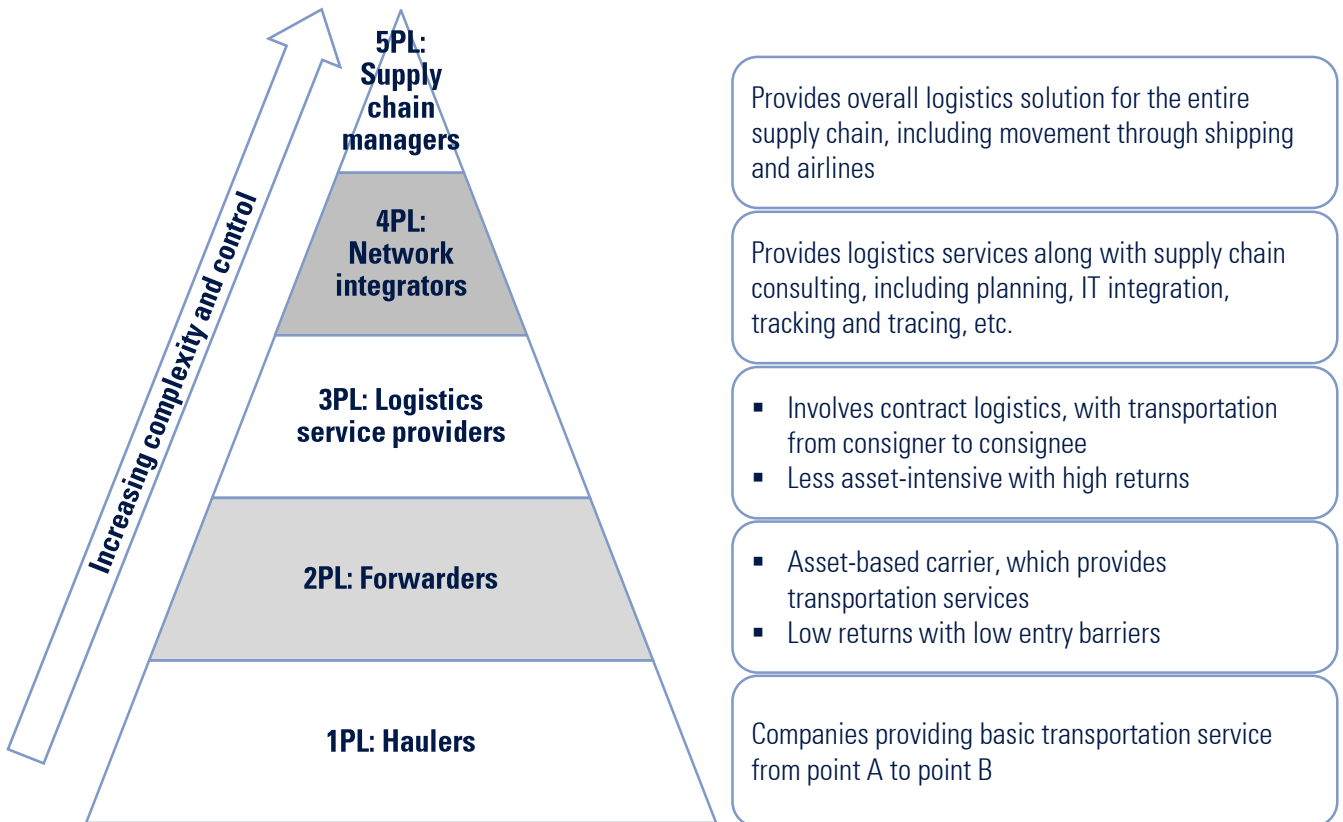
Transport and Logistics sub-sector

Transport and Logistics sub-sector

Evolution of logistics services



Evolution of operating models

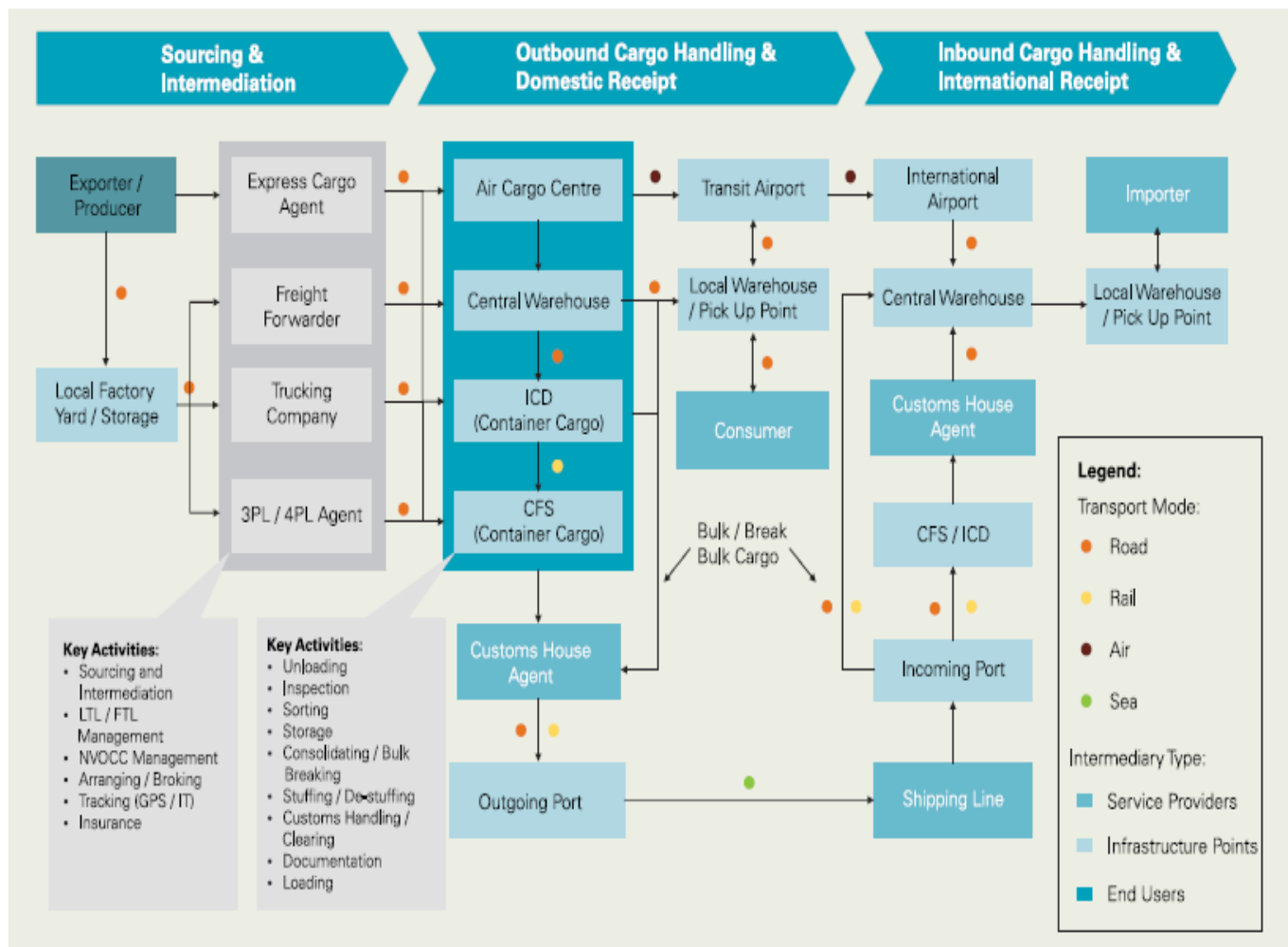


Source: KPMG in India analysis

Transport and Logistics sub-sector

Value chain of transport and logistics services

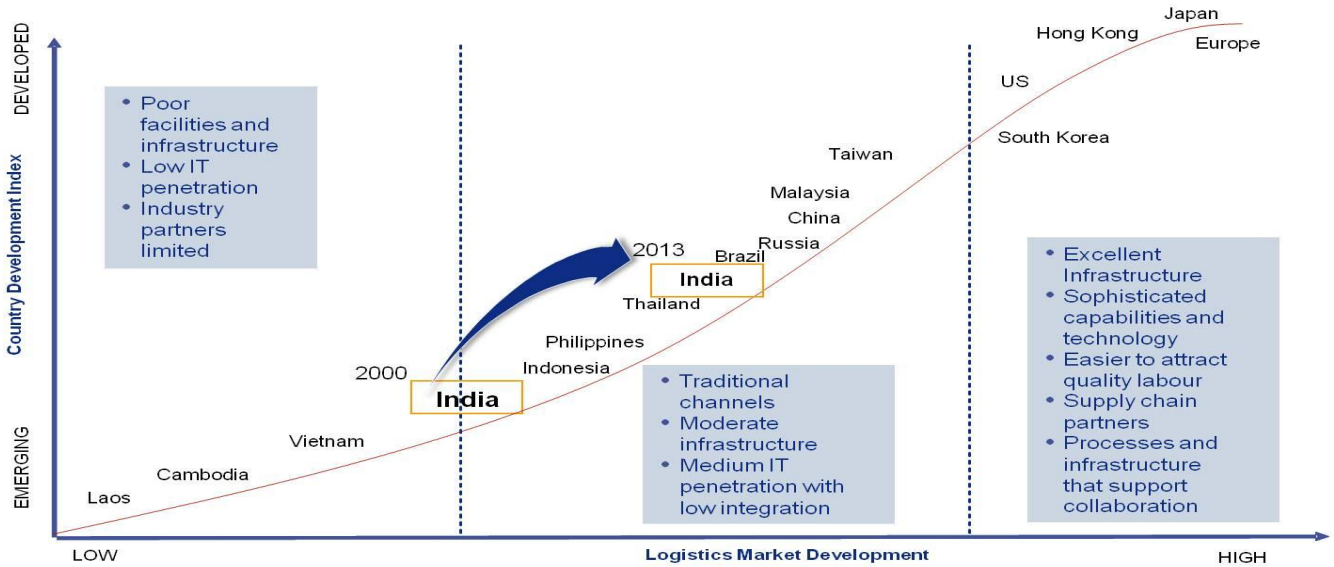
Value chain — transport and logistics



- Transport and logistics in India involves a complex chain of activities, spread across multiple modes of transportation and infrastructure points.
- The complexity of the logistics network is further exacerbated by the fact that the industry is highly fragmented, with several small and mid-sized players dispersed across multiple regional pockets, asset types and services; and with few, if any, players in India are able to offer customers true end-to-end services.
- These complex and evolving activities in the value chain is expected to create demand for specialized skills for logistics specialists, key account managers, fleet managers, quality managers and transport controllers.

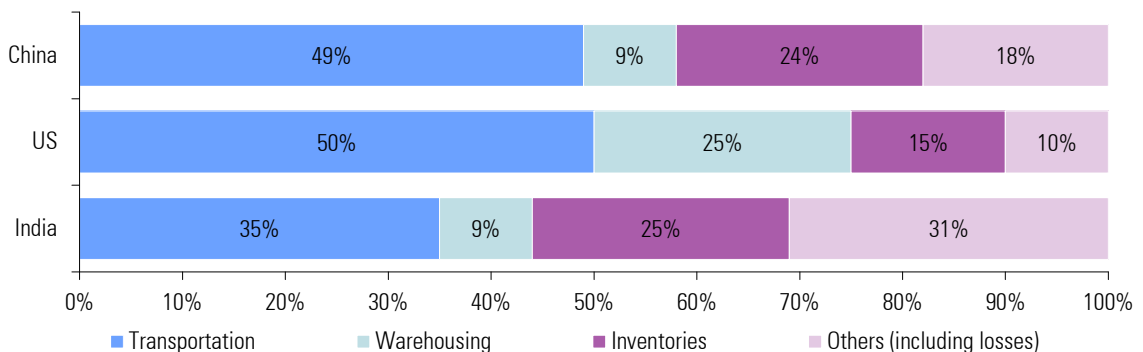
Transport and Logistics sub-sector

Global comparison



- India's spend on logistics activities — equivalent to 13 percent of its GDP — is higher than that of the developed nations due to the relatively higher level of inefficiencies in the system, with lower average trucking speeds, higher turnaround time at ports and high cost of administrative delays.
- While transportation cost in the US and China is high due to large and immensely widespread geographies, it is high in the Indian context due to varying factors, including lack of efficient alternatives to roads for long the hauls, poor road infrastructure resulting in low average speed, significant cess, excessive tolls, higher rate of damage, etc.
- With respect to secondary cost components, such as packaging, administration and damage-related losses, the transportation and logistics sector in India accounts for almost 3 times and 1.7 times the cost share compared to that of the US and Chinese market respectively.
- Increase in costs of the logistics spends in India largely depends on the losses, which leads to opening up of skills in relation to the quality managers, supply chain consultants and process consultants to streamline the SCM process with the IT Support; bringing in more systems, etc and the inclination toward reducing losses and ultimately costs.

Relative composition of transportation and logistics costs



Source: KPMG in India analysis

Transport and Logistics sub-sector

Global comparison

India lags behind global standards across various parameters due to infrastructure bottlenecks and untrained labour.

Transport and Logistics efficiency indicators	India	Global
Road transportation		
Average truck speed (in kmph)	30–40	60–80 (including China)
Four lane road length (in kms)	~8,000	34,000 (China)
National highway length (in kms)	~80,000	1,900,000
Average distance travelled by a truck/day (km)	250–300	600–800
Air transportation		
Airport charges (in USD)	471	265
Airport waiting time — Exports (in hours)	50	12
Airport waiting time — Imports (in hours)	182	24
Ports and sea transportation		
Turnaround time at ports (in hours)	84	7 (Hong Kong and Singapore)
Annual container handling capacity	10.5 million TEUs	150 million TEUs (China)
Containers handled per ship, per hour (max)	15	25–30
Throughout density (maximum)	45,000 TEUs/ hectare	170,000–220,000 TEUs/ hectare
Warehousing		
Average inventory days	33	24 (China)
Others		
3PL share of logistics	16–18%	<ul style="list-style-type: none"> • US: 57% • Japan: 80% • Europe: 40%
Logistics cost as percent of country's GDP	13%	7–8% (developed countries)

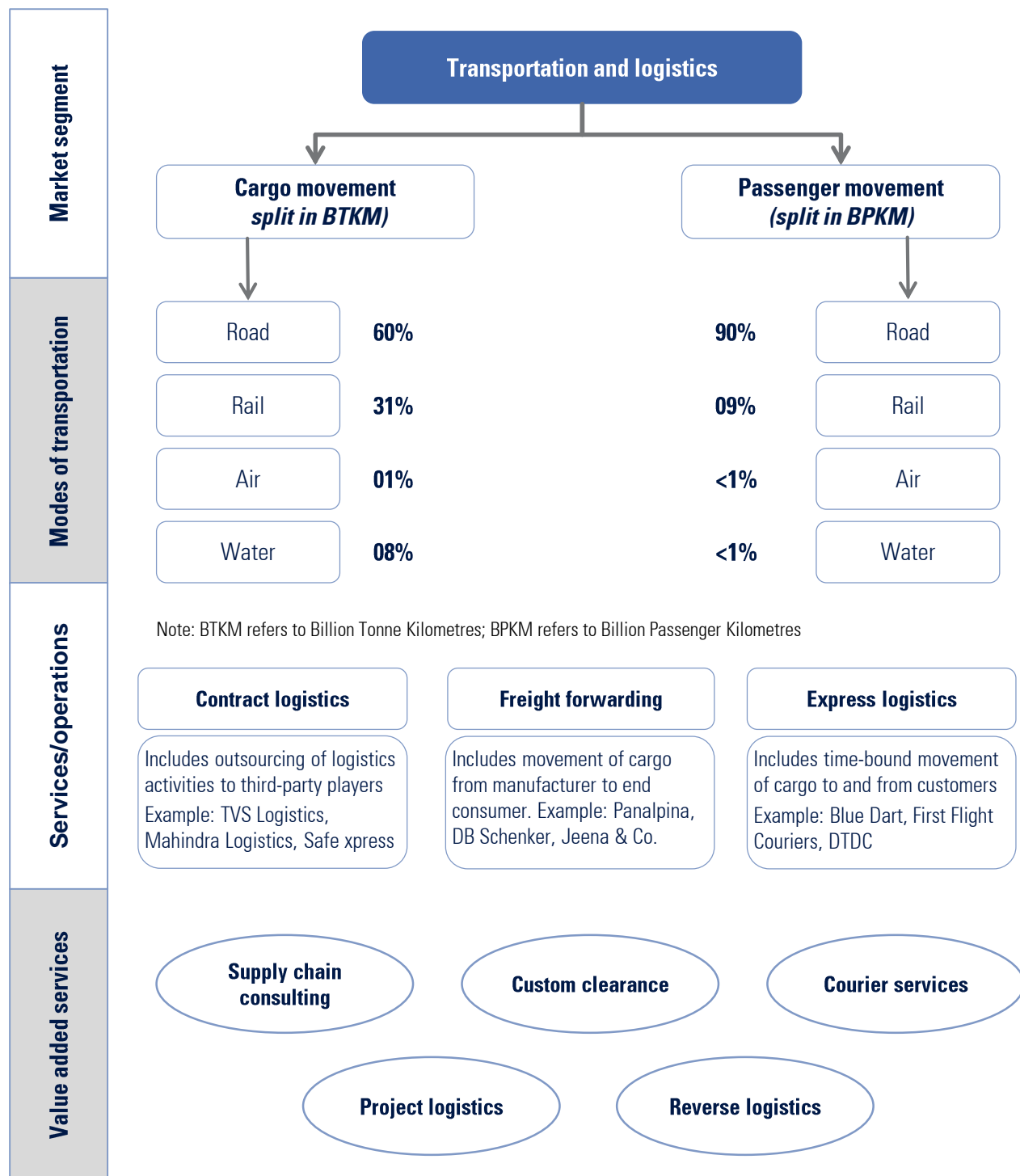
- India fares poorly as compared to its global counterparts, particularly China, in almost all the transport and logistics segments. This is largely because of lack of investments and inefficient supply chain processes, leading to higher logistics cost.
- Thus, it is important that India invests in training its logistics manpower with specific technical skills, such as usage of IT processes and material handling, so that the processes become more efficient.

Source: KPMG in India analysis

Transport and Logistics sub-sector

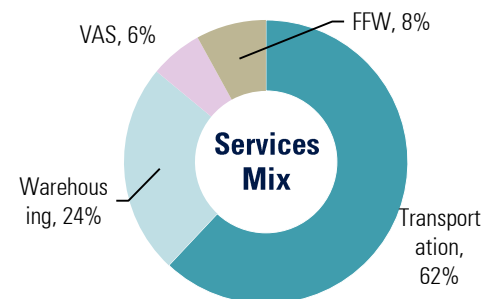
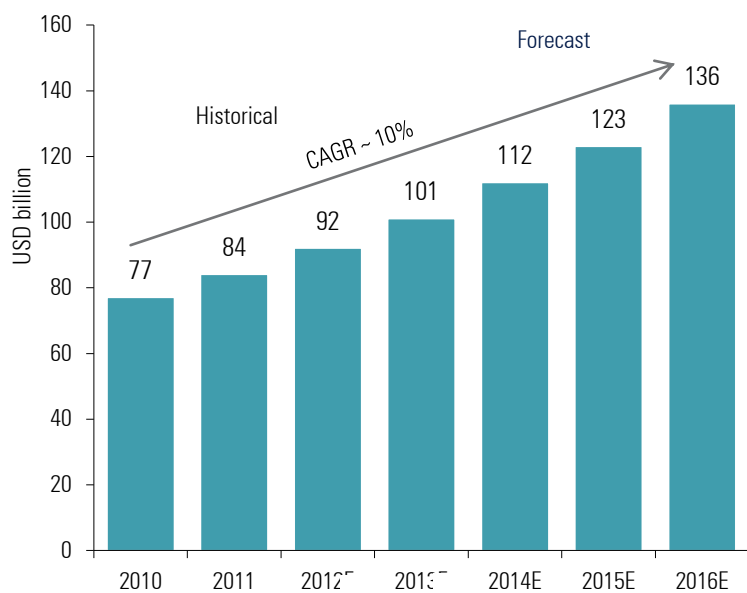
Industry structure

Road transportation forms significant part of the Transportation and Logistics sub-sector and is expected to generate maximum number of jobs in future

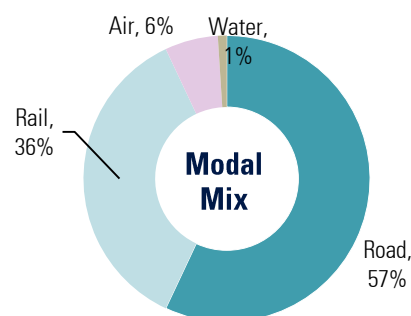


Transport and Logistics sub-sector

Industry overview



FFW: Freight Forwarding; VAS: Value added services



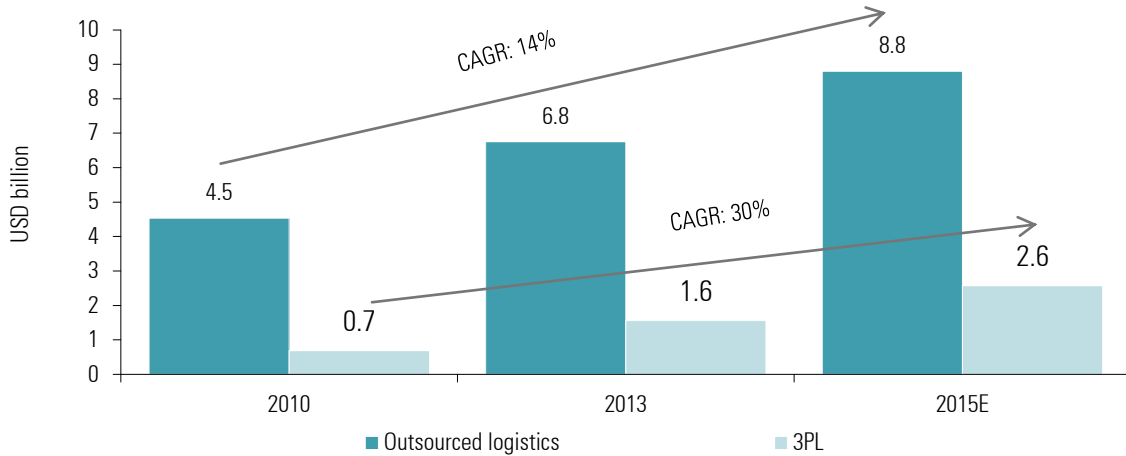
Above services and modal split is by revenues

- The Transport and Logistics sector is expected to register growth at 1–1.5 times the GDP, with EXIM expected to grow at 10 percent. Key trends driving this include:
 - Higher levels of outsourced logistics
 - Increasing complexity of logistics services requirements
 - Increasing orientation towards global best practices
- Several companies are increasingly leaning toward outsourcing and third-party logistics (3PL) models to optimise costs and focus on the core business. This trend is catalysing consolidation and development in the highly fragmented transport and logistics industry.
- In addition, evolving regulatory changes are expected to boost private participation buoy by providing incentives to investors and operators — in the form of tax breaks — which will enhance supply-side infrastructure and capabilities.
- Among the modal mix, roads continue to constitute the most significant component of India's logistics industry, accounting for 60 percent of total freight movement in the country. The share of road transport can expect additional growth, given its ability to facilitate last-mile reach and limited supporting rail infrastructure.
- Majority of the jobs are in road transportation segment largely covering the truck /fleet operators, helpers, planners who plan the fleet management and the supervisors who manage the fleet operations.

Transport and Logistics sub-sector

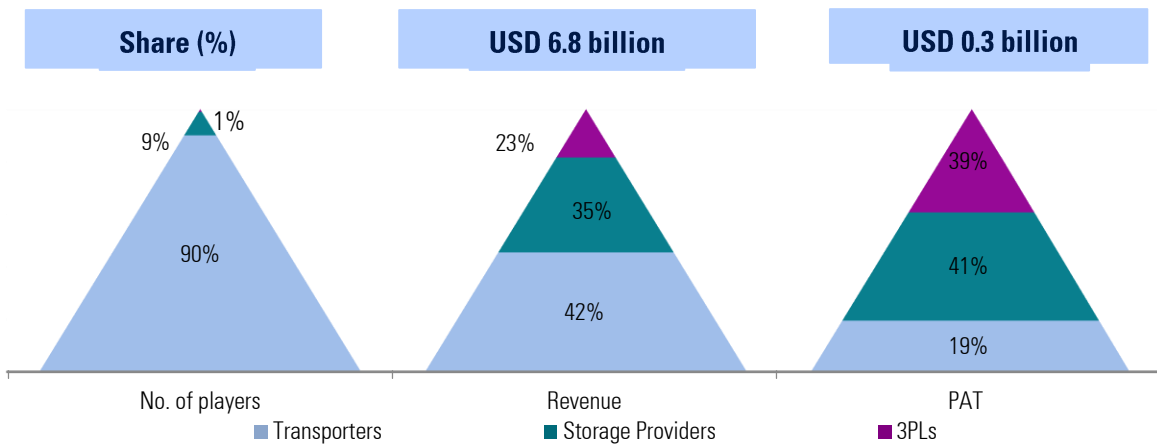
Contract logistics market size and structure

Market size



Source: Frost and Sullivan report; KPMG in India analysis

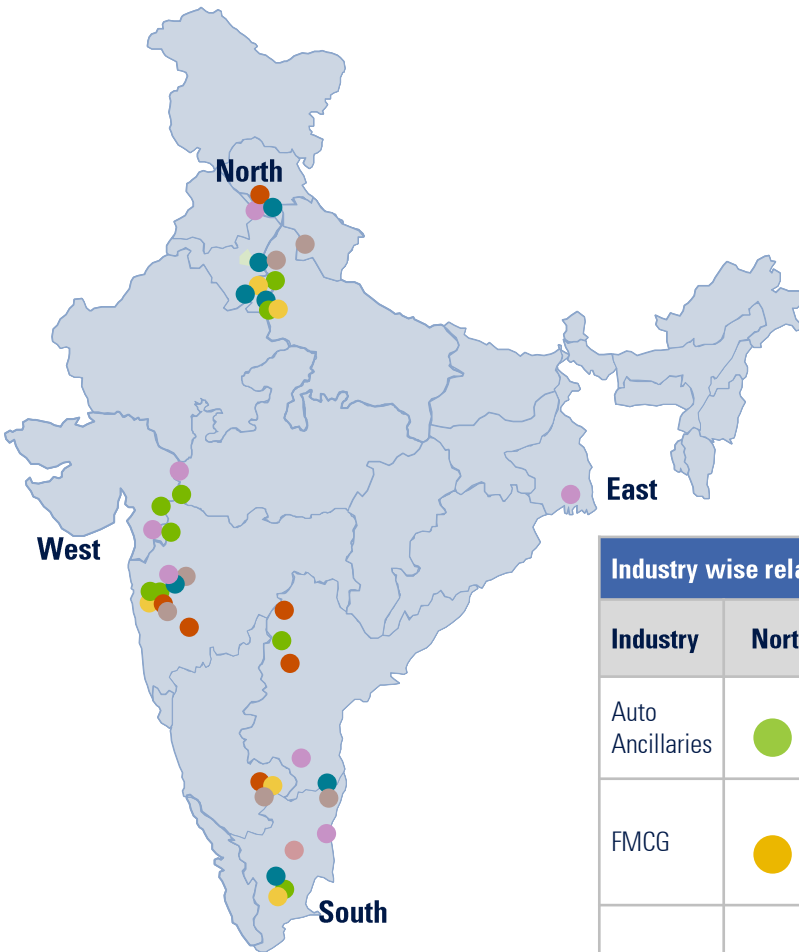
Market structure



Note: No. of players chart is indicative and primarily used for visual representation

Source: Crisil Road Freight 2010; ICRA 2006 report; KPMG in India analysis

- The Indian contract logistics market, though presently at a nascent stage, compared to other developed economies, has grown significantly in the last decade. Its penetration in the logistics sector increased from 12 percent in 2010 to 18 percent in 2012, highlighting significant growth opportunities.
- Following the trend of customers, first outsourcing transportation, followed by warehousing and value-added services (VAS), transportation accounts for approximately two-thirds of the overall 3PL revenues in India. VAS include services, such as packaging, labeling and invoicing. VAS is expected to witness the highest CAGR of 33 percent — against 30 percent and 27 percent for transportation and warehousing, respectively — up to 2015; as a result it would generate requirement for maximum workforce
- For skills, the contract logistics business requires all round development in each sub-sector as far as operational and front line skills are concerned. At one hand at the middle and senior management levels, soft skills around customer relationship management would need to be developed and enhanced on the one hand, breadth of management skills across various segments of logistics would also need to be developed on the other.



- The manpower requirement for handling 3PL operations is mainly concentrated in north, west and south region of India due to concentration of industries that generate demand for outsourced logistics services.
- Lack of requirement of skilled labour for handling 3PL operations in eastern and central region makes it unfavourable to set up operations by logistics company there.

Industry wise relative cluster break-up and top cities

Industry	North	West	South	Company name
Auto Ancillaries	●	●	●	Bosch, Exide Industries, Motherson Sumi, SKF India
FMCG	●	●	●	Hindustan Unilver, Nestle, Britannia, REI Agro, Nirma, Dabur India
Medical Supplies	●	●	●	Siemens Health, Polymedicure, Vimta Labs, Fidelity Industries, Span Diagnostics
Pharma	●	●	●	Cipla, Ranbaxy, Dr. Reddy's, Lupin, Aurbindo Pharma
Apparel	●	●	●	Koutons Retail, Gokuldas Exports, KPR Mills, Rupa and Co., Page Inds
Electronics	●	●	●	Videocon, Siemens, LG Electronics, Crompton Greaves

Legend

- Auto Ancillaries
- FMCG
- Medical Supplies
- Pharmaceuticals
- Apparel
- Electronics

Note: Relative order for each industry does not display two regions (east and central) due to very low significance of these regions vis-a-vis the analysed industries.

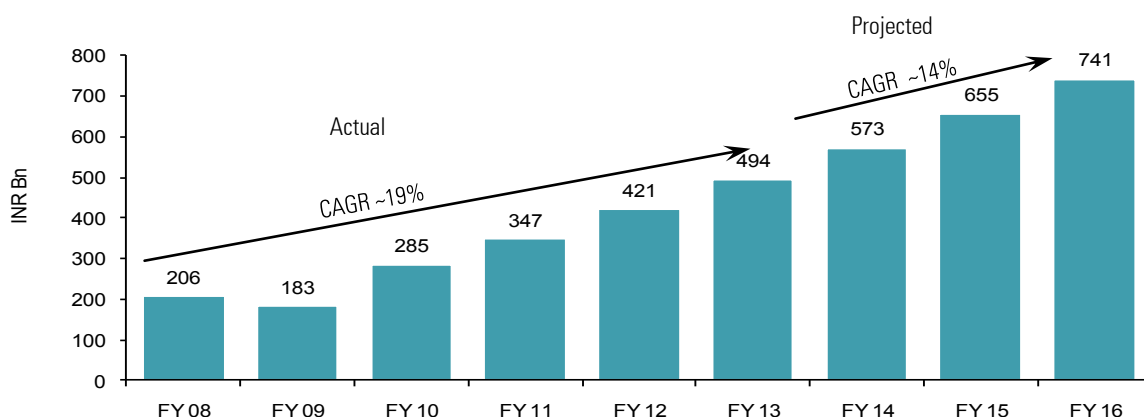
● Highest ● Medium ● Lowest

Source: KPMG in India analysis, secondary research, Capitaline

Transport and Logistics sub-sector

Freight forwarding market size and structure

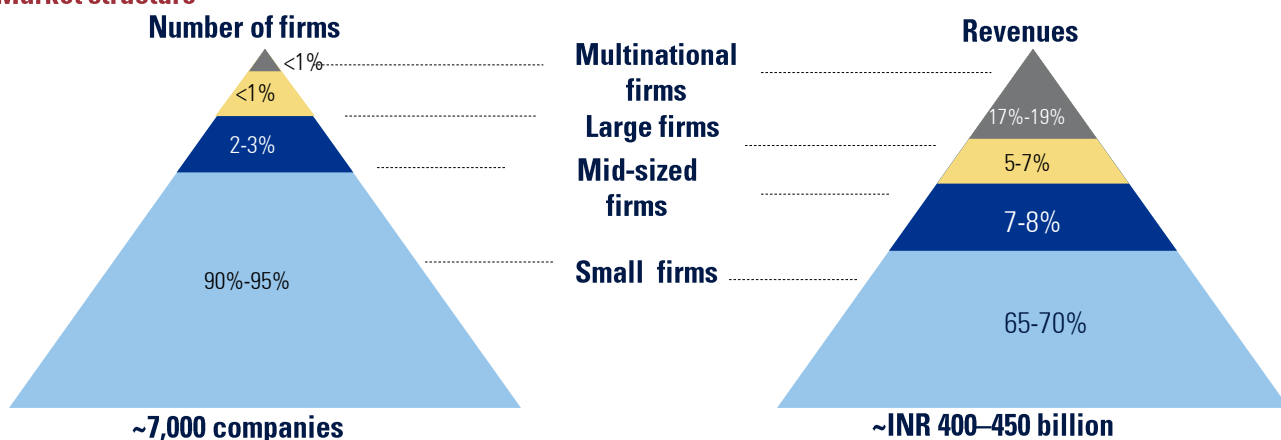
Market size



Note: For FFW market, no custom house agent (CHA) revenues have been considered. Further, the import cargo market, where the business is controlled by a foreign agent, has not been considered.

Source: Ministry of Commerce, EIU, World Bank, KPMG in India analysis

Market structure



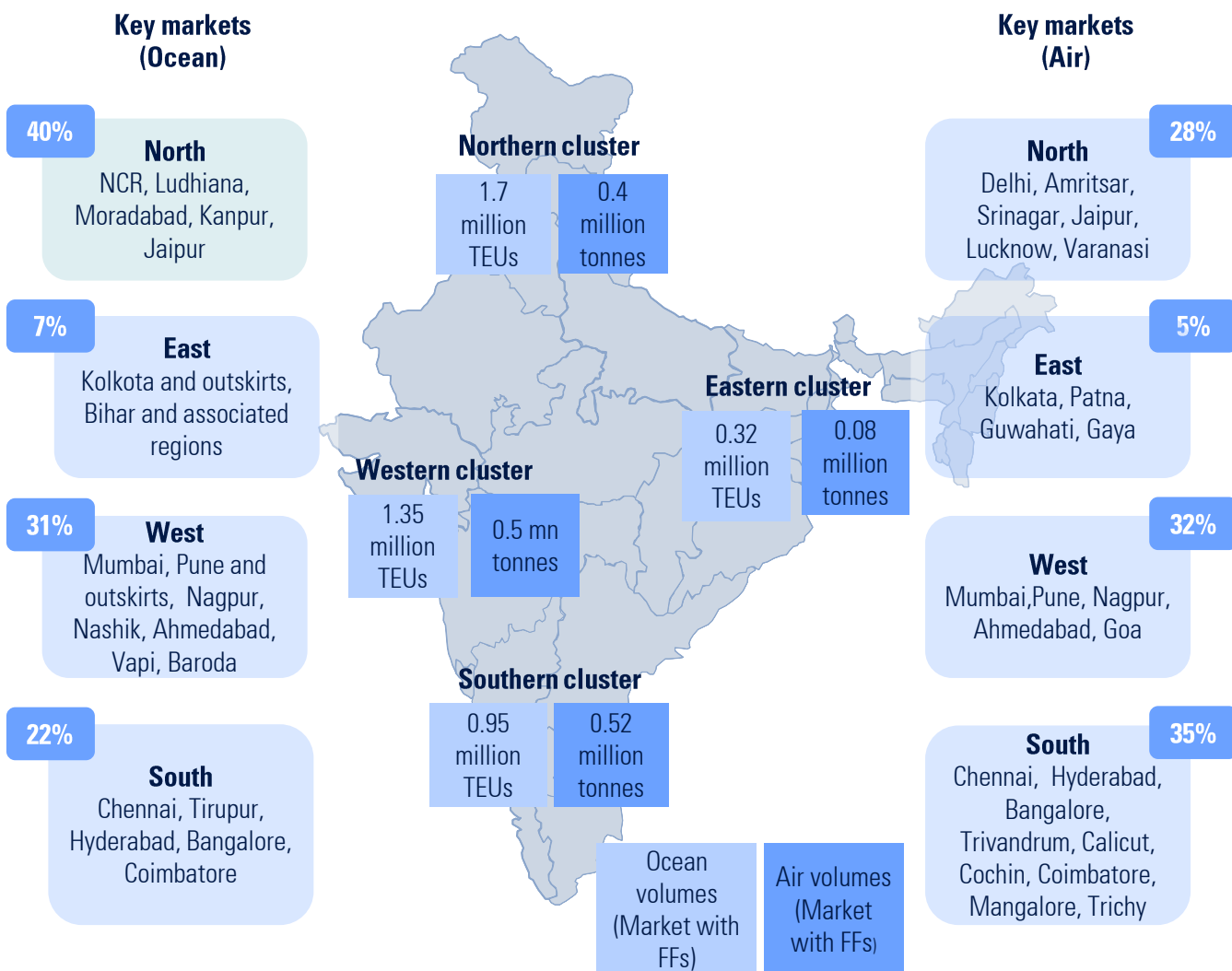
- At INR 494 billion, freight forwarding contributes 8 percent to the total logistics revenues in India, as compared to other logistics services, such as transportation (62 percent) and warehousing (26 percent). While the freight forwarding market in the Asia-Pacific region is expected to grow at a CAGR of 12 percent, it is expected to grow at 14 percent in India to reach INR741 billion by 2016.
- Freight forwarding companies in India have traditionally focused on activities such as freight arbitrage and customs house brokerage. However, the evolving requirements of end users, the enhanced use of technology, growth across key segments and the growing need for integrated services has driven this community to expand its services to end-to-end logistics solutions, including warehousing, distribution and other value-added services. This evolution has resulted in the increase of manpower demand with specific skill sets required to provide services in a freight forwarding business.
- The air market is marginally larger than the ocean market (by value), but the latter is expected to grow at a higher rate in future and thus create more job opportunities in ocean freight forwarding market.

Source: Ministry of Commerce, KPMG in India analysis

Transport and Logistics sub-sector

Key markets for freight forwarding services

The demand for freight forwarding service has traditionally generated from northern and western clusters in India. Regional cargo mix handled by freight forwarders for air and ocean transport — FY12

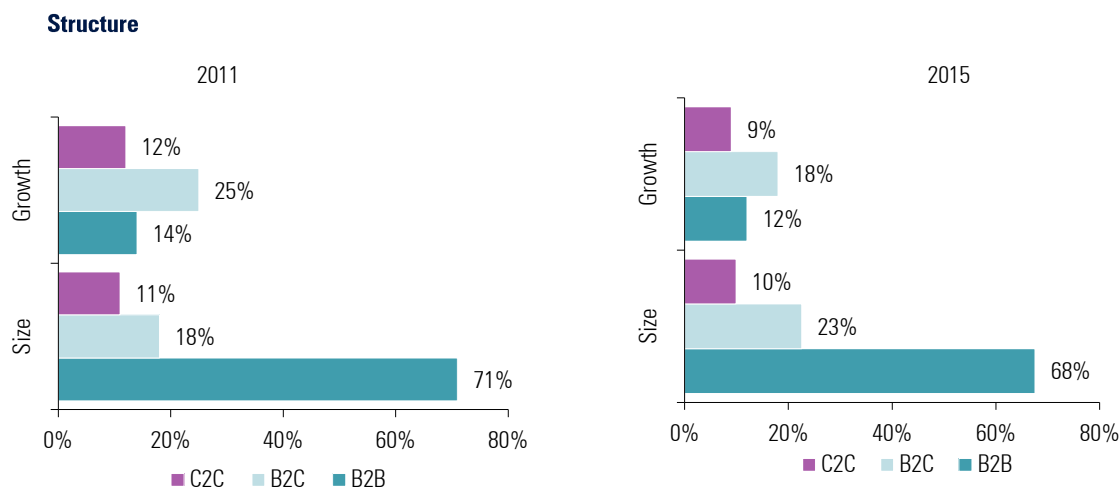
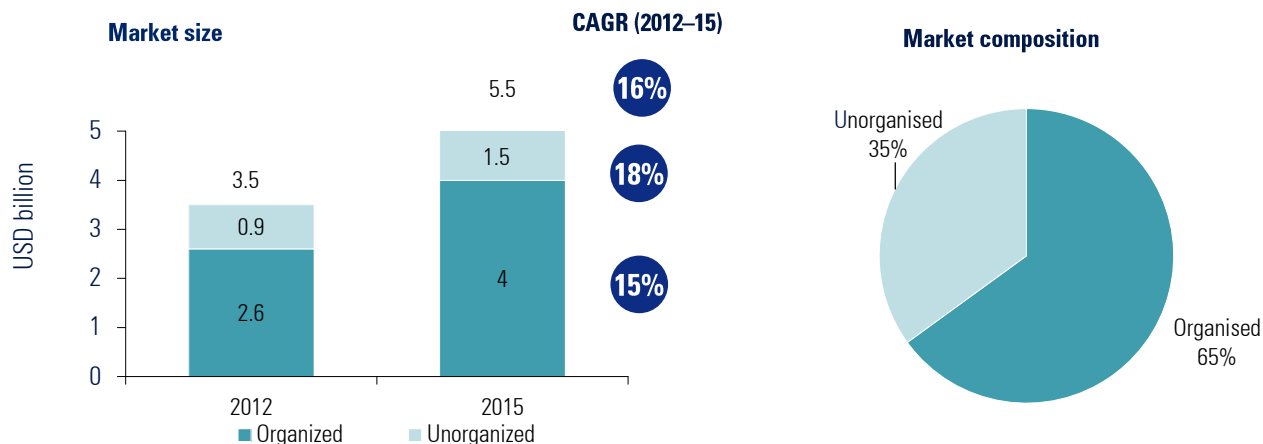


- There are more than 40 key cargo-generating regions spread across India that contribute to the country's container traffic.
- While each region is distinct in terms of cargo traffic and the commodities handled, certain regions also have the potential to provide value-added services, such as warehousing and domestic cargo distribution.
- Majority of the manpower requirement for supervisors and labourers will be generated from Southern and Western clusters for ocean and air transport, particularly in the Mumbai and Chennai region.

Source: Ministry of Commerce, KPMG in India analysis

Transport and Logistics sub-sector

Express logistics market size and structure



Note: B2B means Business to Business, B2C means Business to Consumer, C2C means Consumer to Consumer
Source: KPMG in India analysis

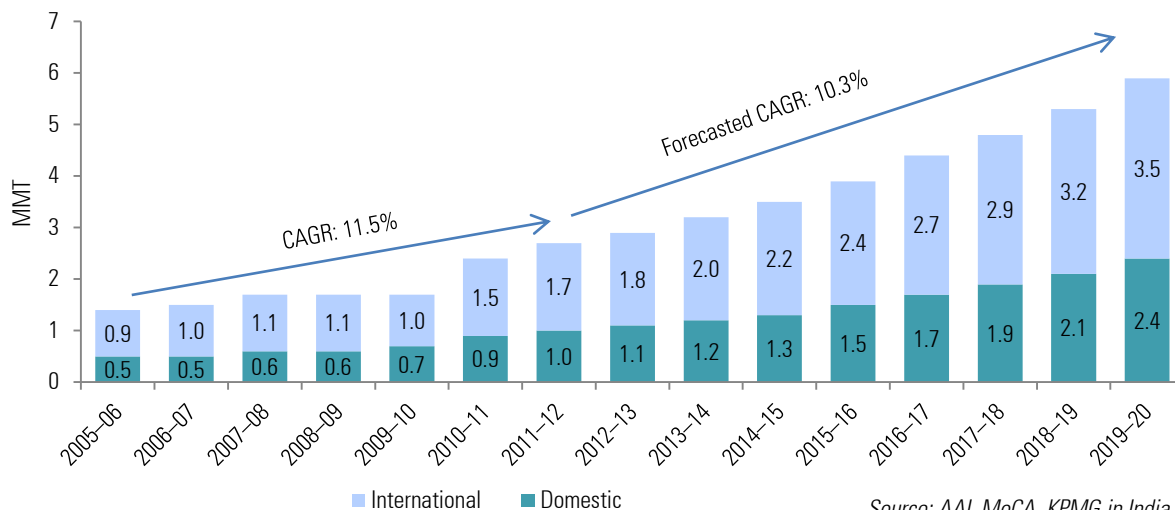
- The express logistics market in India is highly competitive with most players into document courier commoditised services. It is approximately USD3.5 billion and is growing at around 16 percent per annum.
- B2B is expected to be the largest segment for express logistics players; however, the B2C segment is growing faster than other segments
- While international and large players are focused on EXIM and domestic intra-city market, smaller players are focused on domestic inter-city market services.
- Commoditisation is forcing players to focus on providing value-added services and thus, generate demand for specialised skills to ensure timely, guaranteed and safe delivery of goods.
- Sophistication and competition along with scale building among the industry players is expected to drive the need for deeper skills at the operational level and a broader range of skills at the middle and senior management levels in the future.

Transport and Logistics sub-sector

Air segment market size and structure

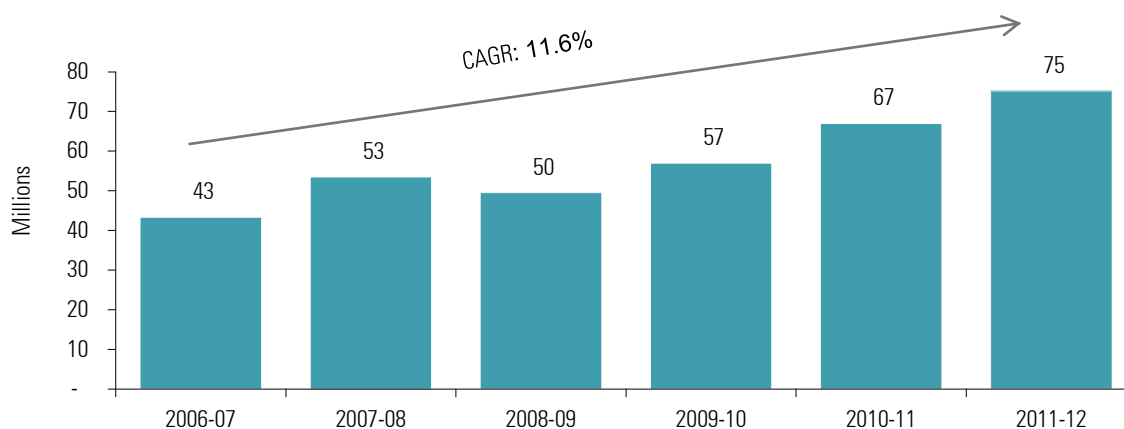
The emergence of new air cargo hubs and the growing ecosystem of service providers, to facilitate efficient air cargo services, will likely drive manpower demand and related investments in the air cargo segment

Air cargo throughput for all Indian airports



Source: AAI, MoCA, KPMG in India analysis

Air passengers traffic



- While the total volume of air cargo traffic currently constitutes about 1 percent of total trade, it accounts for close to 29 percent of total trade value. International cargo, which accounts for two-thirds of total cargo, is largely concentrated in the metro airports of Mumbai, Delhi, Chennai, Bengaluru and Hyderabad. The Delhi and Mumbai airports collectively handle around 50 percent on India's domestic and international cargo.
- Growth in passenger traffic has been strong since the last decade, especially with rising per capita incomes and low-cost airlines entering the market segment; passenger traffic has expanded at a CAGR of 11.6 per cent over FY07–12.
- Despite being relatively more organised segment leading to more consideration or manpower development, there exist skill gaps at the operational level and are primarily to do with soft skills, such as relationship management, interpersonal and managerial; and supervisory skills.

Source: DGCA website assessed on March 2014, KPMG in India analysis.

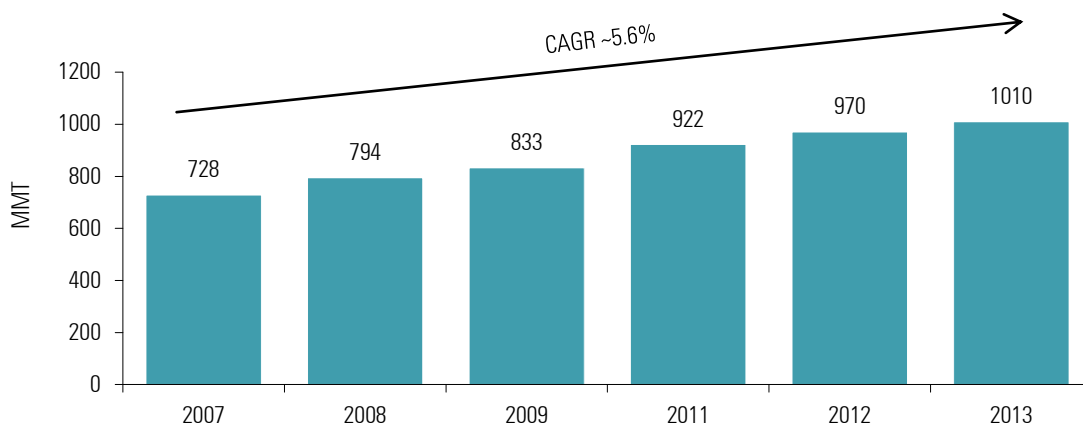
Note: Above passenger traffic includes domestic and international movement of Indian carriers

Transport and Logistics sub-sector

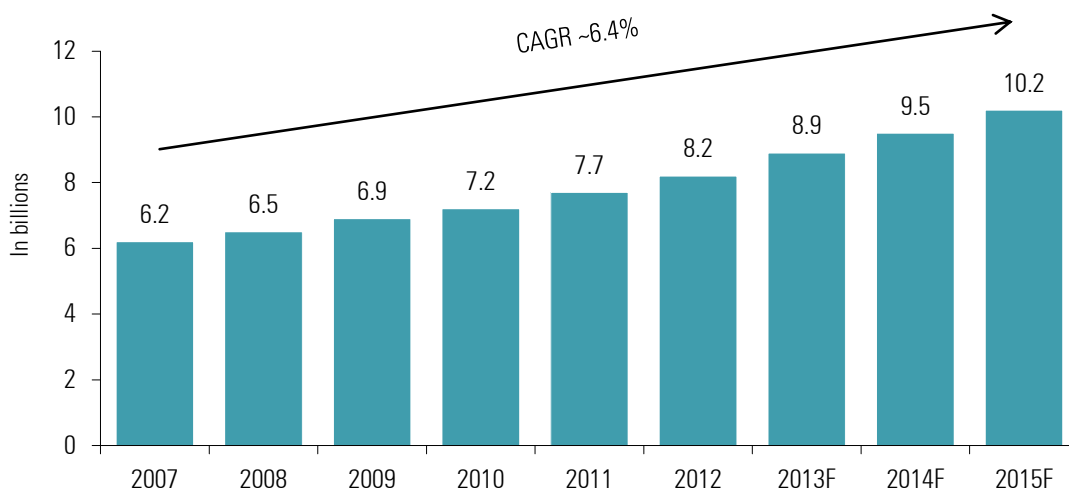
Rail segment market size and structure

Indian railways operates 19,000 trains daily, transporting 2.65 MMT of freight and 23 million passengers across the country; thereby creating significant demand for skilled labour .

Rail freight traffic



Rail passenger traffic



- Spanning 64,456 km with more than 7,133 railway stations, India's rail network is the largest in Asia and the second-largest in the world (after the US).
- Rail freight has grown at around 5.6 percent since 2007. It has crossed the one billion tonne mark in 2013, with a 31 percent share of total freight movement across all modes of transport. This is in stark contrast to its share of 89 percent in 1951.
- Annual passenger volumes increased at a CAGR of 5.8 per cent during previous five-year plan. According to the 12th Five-Year Plan, passenger volumes are expected to increase at a CAGR of 7.4 per cent during FY12–17.
- With the government being the major employer in the rail transport sector, it has created strong in-house training infrastructure and policy that provides rotational job opportunities to its employees for working in other roles.

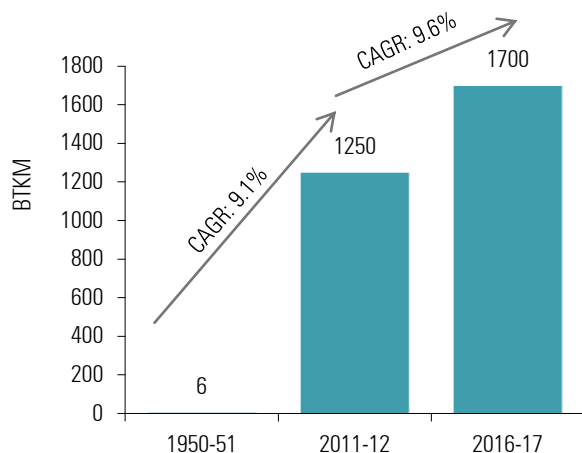
Source: IBEF Railways Report: August 2013, KPMG in India analysis

Transport and Logistics sub-sector

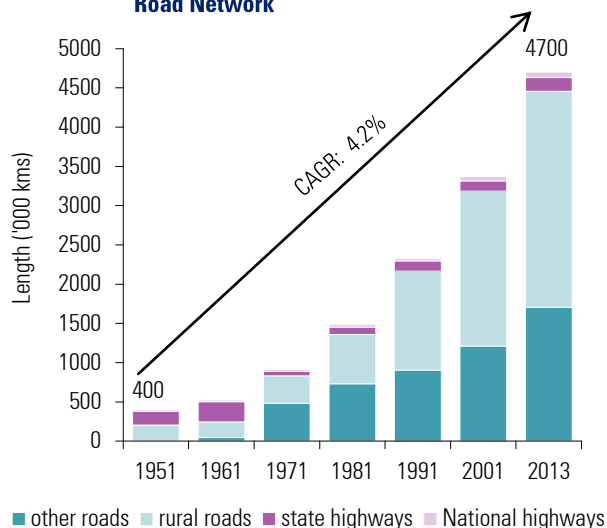
Road segment market size and structure

While the demand for road connectivity is on the incline, so is the focus on improving basic road infrastructure as well as technology adoption

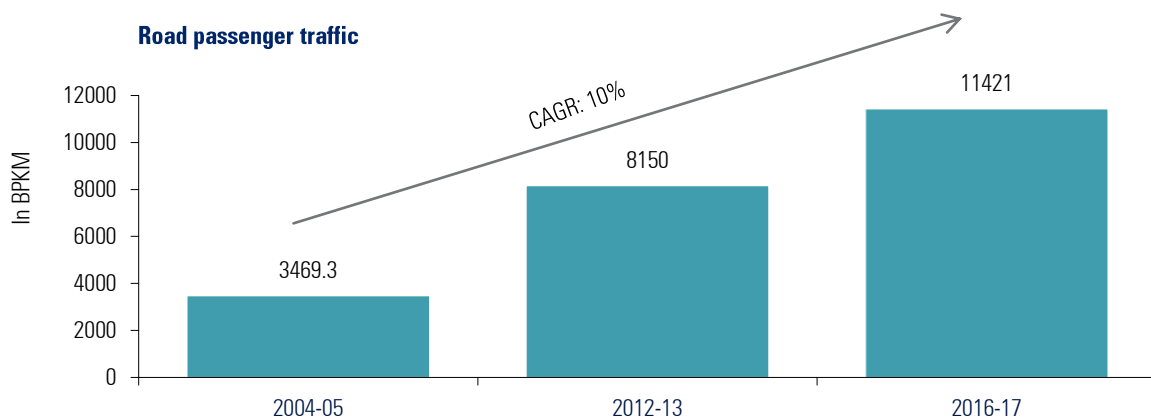
Road freight traffic



Road Network



Road passenger traffic

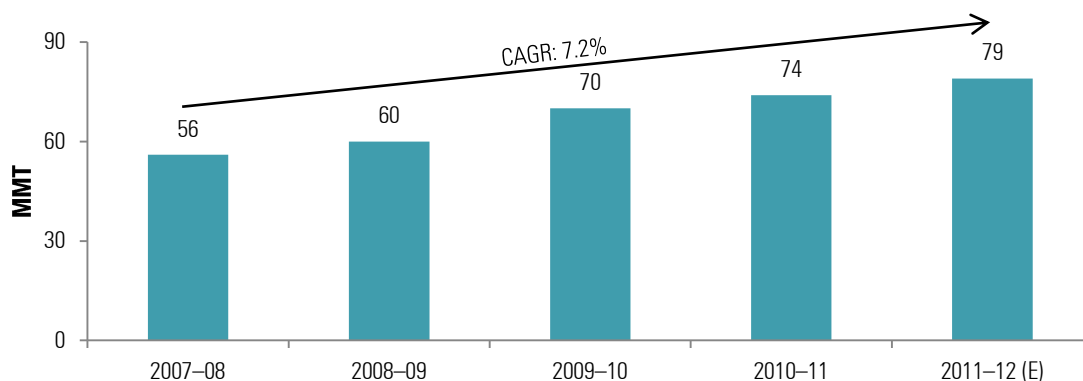


- Historically, road freight in India has increased since its 1950–51 level of 6 billion tonne kilometres (BTKMs) to an estimated 1,250 BTKMs in 2011–12, witnessing a CAGR of 9.14 percent during this period. Over the next five-year period, from 2012–13 to 2016–17, assuming the GDP growth of 8 percent, road freight is expected to grow at a CAGR of 9.6 percent.
- While National Highways constitutes about 2 percent of total road network and accounts for more than 40 percent of the total road freight, two-lane roads constitutes about 54 percent of total road network.
- The completion of the National Highways Development Programme (NHDP) — which is aimed at developing 50,000 km of National Highways by 2015 in seven phases with an investment of INR 3,000 billion and modernisation of the road cargo transport community — will be game changers for the road transport sector and is expected to generate significant labour demand.
- Road transport segment has not traditionally seen significant investments in manpower development as compared to other segments, such as rail and air. This has resulted in skill gaps among the existing set of personnel, particularly among the truck drivers.

Source: NHAI, KPMG in India analysis; MORTH — Gol

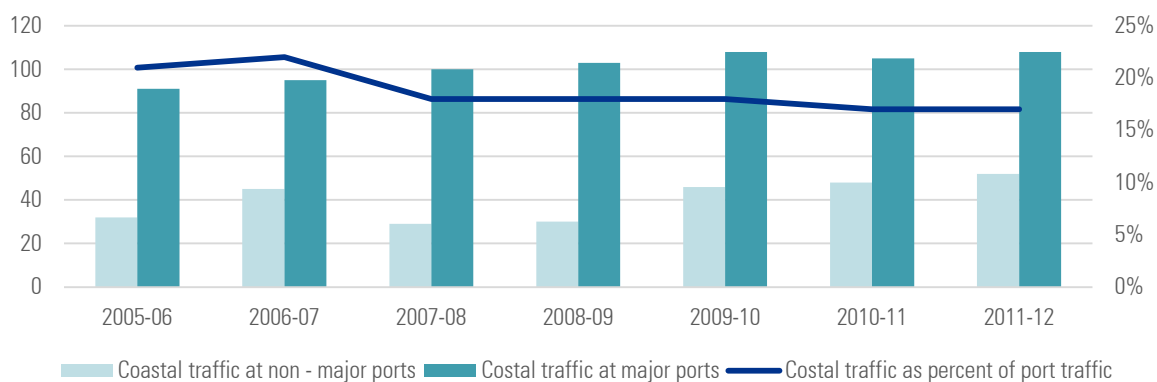
Coastal shipping and IWT offer game-changing opportunities to meet the demand for bulk transportation to nearby areas and along the coast vis-à-vis other modes of transport

Freight traffic by inland water transport



Source: Presentation on Indian Inland Waterways, March 2012, IWAI; KPMG in India analysis

Freight traffic by coastal shipping



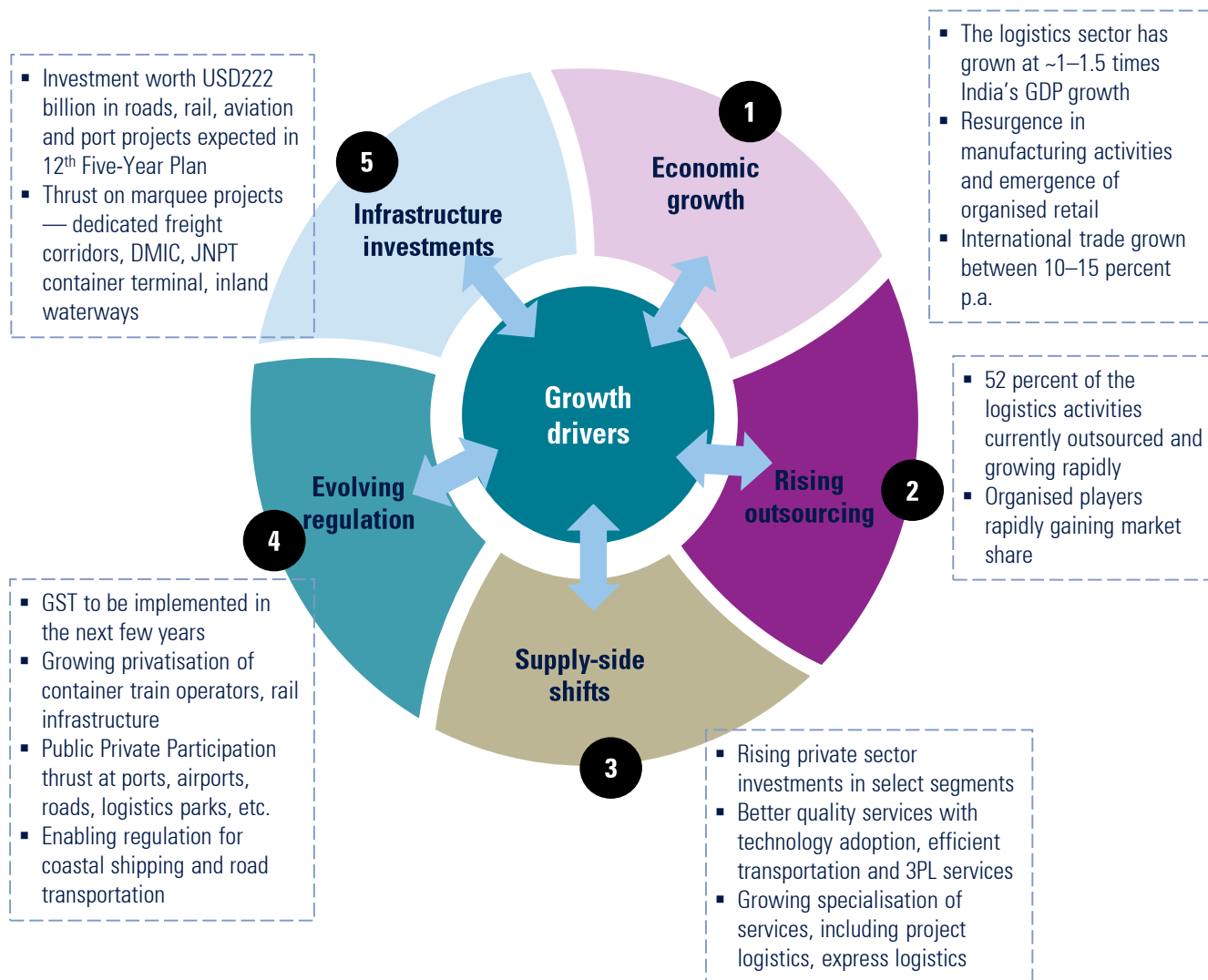
Source: KPMG in India analysis

- Growing at 7.2 percent over the past five years, IWT cargo traffic was estimated at 79 MMT in 2011–12. India falls short in the share of IWT at 0.5 percent as compared to China at 8.7 percent, the US at 8.3 percent and Europe at 7 percent. In 2011–12, coastal cargo constituted 17 percent of the total cargo at Indian ports and increased at a nominal CAGR of 4.5 percent to 160 MMT in 2011–12 over the past five years.
- Coastal shipping seems to be a feasible option for movement between most ports on the west and east coasts. Some prominent coastal shipping routes include Chennai to Chittagong/Yangon through Haldia/Kolkata, southbound cargo from Pipavav/Mundra to Kochi and other ports; and inland and coastal movement in and around Goa.
- Among the navigable waterways, five National Waterways (NWs) — NWs 1, 2, 3, 4 and 5 — spanning approximately 4,400 km have been outlined as potential inland waterways at the Ganges and Brahmaputra rivers, the West Coast Canal, the Godavari and Krishna rivers; and the East Coast Canal, respectively. NW 6, which stretches across 121 km, has been proposed at Barak River.
- With increasing emphasis given by the Ministry of Shipping to promote the usage of coastal shipping and inland waterways transport, government should take concerted measures to facilitate the training and employment of seafarers.

Transport and Logistics sub-sector

Growth drivers

The growth drivers of the logistics sector are fundamentally strong and have remained so over the last decade



- As a result of the above growth drivers, the segment has seen a steady increase in its contribution to the country's GDP and employment. While the contribution of the sector to the GDP has increased from 6.8 percent in FY01 to 9.3 percent in FY13, the contribution to employment has increased from 3.7 percent in FY00 to 4.2 percent in FY10.
- The employment has increased both in the organised as well as in the unorganised segments. However, the sharpest increase occurred in the unorganised segment during the first half of the decade.

Source: RBI Data, accessed on February 2014; Report of the Working Group on Employment, Planning and Policy for the 12th Five Year Plan (2012–17)
 Note: Please note that transport and logistics include revenues and employment percent from transportation, warehousing and value added services

Transport and Logistics sub-sector

Key enablers

Industry specific value-added solutions	<ul style="list-style-type: none">▪ Logistics companies are hinged around offering industry-custom supply chain solutions, e.g., testing/inspection/line feeding for auto, reverse logistics for retail.▪ The ability to help customers re-engineer their supply chain, differentiates one logistics service provider from another, e.g., helping customers migrate from road to rail and project logistics management.
Ownership / control over assets	<ul style="list-style-type: none">▪ End-to-end control over cargo is critical in qualifying as a modern logistics service provider and many companies are beginning to own assets, such as trailers and warehouses, to ensure this.▪ Developing relationships with key value chain partners, such as freight forwarders, domestically and internationally, is necessary in giving customers the comfort to outsource.
Manpower	<ul style="list-style-type: none">▪ Availability of skilled manpower — both management and operational — is a key constraint for the logistics sector, and acquiring/retaining talent is a critical differentiator.▪ Key personnel also bring customer relationships and industry-specific logistics know-how to organisations, which is highly coveted.
Relationships	<ul style="list-style-type: none">▪ Long-term contracts with customers ensure regular and predictable flow of volume of goods.▪ Cross-referrals from customers in the same industry is a key value driver in logistics services.
Systems and processes	<ul style="list-style-type: none">▪ Effective processes are needed to tightly control operations, e.g., backhaul management and route optimisation.▪ Coupled with this, customers are increasingly demanding technology enablement in logistics services, e.g., GPS, RFID, track and trace, and real-time cargo updates.
Efficient operations	<ul style="list-style-type: none">▪ Service levels are critical for logistics service providers, when attempting to wean away customers from unorganised logistics segments, such as trucking and 'godown' storage, to modern and organised services, such as timely pick-up and delivery, hygienic warehouses, call-centre management, etc.

Source: KPMG in India analysis

Transport and Logistics sub-sector

Government policies and initiatives

Foreign Direct Investment policy

- Up to 100 percent FDI under automatic route applied under the following segments:
- Courier services for carrying packages, parcels, and other items, which do not come within the ambit of the Indian Post Office Act, 1898
- Storage and warehousing including warehousing of agricultural products with refrigeration (cold storage)
- Transport and transport support services allowed for:
 - Pipeline transport, ocean and water transport, inland water transport
 - Transport support services, such as operation of highway bridges, toll roads, loading/unloading of vessels, cargo handling incidental to land, water and air transport
- Up to 49 percent FDI for domestic scheduled passenger airline under automatic route and up to 74 percent, in which 49 percent is allowed through automatic route and beyond that and up to 74 percent with government approval, FDI for non-scheduled airlines, chartered airlines and cargo airlines.

Inland freight transportation

Regulations	Overview
Motor Vehicle Act 1988	<ul style="list-style-type: none"> ▪ Replacing the Motor Vehicle Act 1939, the Motor Vehicle Act 1988 was implemented from 1 July 1989 to address the key regulatory requirements that are required to be adhered by the transportation companies. ▪ Key areas that are applicable for transportation companies include driving licence, vehicle registration, obtaining permits, safety standards and emission norms.
Motor Transport Workers Act (MTWA) 1961	<ul style="list-style-type: none"> ▪ The act came into effect to regulate the conditions of work, employment and wages of the labours engaged in motor transportation activities. ▪ This act covers special legislative measures for motor transportation labours including rest periods, annual leave, hours of work, medical facilities, etc ▪ While the MTWA is restricted to organised transportation companies only, it has resulted in high fragmentation of the transportation sector.
The Carriage by the Road Act, 2007	<ul style="list-style-type: none"> ▪ The act was passed in September 2007 and was gazette on 1 October 2007. However, it came into effect in March 2011 when the Carriage by Road Rules 2011 were notified. ▪ This act aims to make the transport sector more transparent and modernise the systems and procedures of transportation trade. It specifically aims to ensure the registration of common carrier equitable apportionment of liability between the common carrier and consignor, regulation of hazardous goods and to ensure proper statistical reporting in the transport sector. ▪ The act is expected to bring in greater control from the government, provide enhanced accountability and transparency in the industry and enable better planning, which could result in additional tax collection from and through transporters.
Other regulatory measures	<ul style="list-style-type: none"> ▪ The transportation companies have to deal with multiple regulations, such as direct and indirect tax laws, municipal laws, labour laws, environment laws, etc. ▪ These laws vary basis for taxation, complicated procedures and frequent stoppage of vehicles at various checkpoints.

Source: CRISIL database: Domestic Freight Transportation Services, accessed on March 2014; KPMG in India analysis

Transport and Logistics sub-sector

Government policies and initiatives

Shipping

Regulations	Overview
Merchant Shipping Act 1958	<ul style="list-style-type: none"> ▪ The first Indian shipping act came into existence in 1923, with provisions similar to that of UK Merchant Shipping Act 1894. The Merchant Shipping Act was passed in 1958 after India's independence. ▪ The act includes provisions related to the establishment and composition of the National Shipping Board. It also defines the Indian ships and procedures for their registration, provisions for transfer of ships, rules regarding the national character of ships and their flags. ▪ It gives the central government the power to control Indian ships; and prescribes penalties for violation of the provisions. ▪ The amendment bill was passed in 2003 to give effect to international conventions and protocols adopted by the International Maritime Organisation.
Inland Vessel Act 1917	<ul style="list-style-type: none"> ▪ The act came into existence to consolidate all the acts related to Indian vessels. ▪ According to the act, 'inland vessel' or 'inland mechanically propelled vessel' means a mechanically propelled vessel, which ordinarily plies on any inland water; 'inland water' means any canal, river, lake or other navigable water and 'mechanically propelled vessel' means every description of vessel propelled wholly or in part by electricity, steam or other mechanical power. ▪ The act seeks to provide details for registration of vessels, casualty investigation, protection of passenger, insurance of inland vessels, etc
Coasting Vessel Act 1838	<ul style="list-style-type: none"> ▪ The Coasting Vessels Act, 1838 has been applicable to Bombay Presidency only and not throughout India, but the Central Government may, by notification in the Official Gazette, extend it to any other states that have sea-coast. ▪ The act is aimed to regulate coastal shipping activities in India.
Multi-modal Transportation of Goods (MMTG) Act 1993	<ul style="list-style-type: none"> ▪ The act provides for the regulation of multi-modal transportation of goods from any place in India to any place outside India involving two or more modes of transport on the basis of a single multi-modal transport contract. ▪ The act has been aimed to reduce the overall logistics cost, thereby making Indian products more competitive in the international markets.

Cabotage law in India

No ship other than an Indian ship or a ship chartered by a citizen of India or a company or a co-operative society shall engage in the coasting-trade of India except under a licence granted by the Director-General under this section.

Impact:

- Reduced dependence on foreign-owned vessels
- Employment to Indian sea farers
- The development of indigenous tonnage and greater control over national maritime security

Favourable regulatory environment in the transport and logistics sector, especially for enhancing labour productivity, is expected to create efficiency in the system

Source: CRISIL database: Shipping Regulations, accessed on March 2014; KPMG in India analysis

Transport and Logistics sub-sector

SWOT analysis

<p>Strengths</p>	<ul style="list-style-type: none"> ▪ The emergence of asset-light business models providing end-to-end logistics services ▪ The presence of one of the best rail network in the world ▪ The consolidation of small and medium enterprises to provide pan-India presence and improve overall profitability ▪ The availability of adequate labour pool at low cost for basic handling and transport job ▪ The presence e of marquee infrastructure facilities such as dedicated freight corridor ▪ The increased penetration of technology in various logistics activities ▪ Companies focused on providing vertical-specific customised solutions ▪ Skilled manpower with requisite certifications and training ▪ World class logistics infrastructure ▪ Efficient transportation processes with the usage of technology ▪ Well defined policies and regulations ▪ The availability of skilled and experienced manpower
<p>Weaknesses</p>	<ul style="list-style-type: none"> ▪ Low penetration of technology, operations usually performed manually ▪ Overdependence on road transportation, leading to congestion ▪ Unprofessional and untrained staff for various activities ▪ Poor safety standards often leading to theft and damage ▪ No industry status for logistics services ▪ The lack of world-class logistics infrastructure ▪ Fragmented industry, with presence of multiple small regional players ▪ The old and inefficient transportation system of trucks, ships, etc. ▪ The lack of world-class logistics infrastructure ▪ Fragmented industry, with presence of multiple small regional players ▪ The old and inefficient transportation system of trucks, ships, etc.

Transport and Logistics sub-sector

SWOT analysis

<p>Opportunities</p>	<ul style="list-style-type: none"> ▪ Maturing industry segments —automotive, retail, pharmaceuticals and e-commerce ▪ The development of support infrastructure — dedicated freight corridors, Delhi-Mumbai industrial corridor, container terminals, etc. ▪ Rising domestic and EXIM trade to create demand for logistics services ▪ The development of national-level centralised logistics systems ▪ Rising trade with east-Asian countries, such as China, Philippines and Myanmar ▪ Rising domestic consumption and EXIM trade to enhance the usage of transportation services ▪ The implementation of favourable reforms such as GST ▪ Rising trade with African and South American countries ▪ Changing mindset — logistics seen as a ‘profit centre’, not as a ‘cost enabler’ ▪ Highly integrated logistics network connecting all the modes of transportation
<p>Threats</p>	<ul style="list-style-type: none"> ▪ Competition against multinational companies ▪ Poor logistics infrastructure leading to high logistics cost ▪ Fluctuating fuel costs and its dependence on global economic environment ▪ Pricing pressures leading to low margins ▪ Logistics seen as a cost enabler, not a profit/strategic enabler ▪ The lack of well-defined policies and regulations for logistics services ▪ The emergence of global operators with better technological and operational capabilities ▪ Logistics still seen as a cost enabler, not a profit/strategic enabler ▪ Higher competition for new entrants ▪ Stagnating demand for logistics services in select domestic and international trade lanes

Warehousing sub-sector

Warehousing sub-sector Overview

- The warehousing segment consists of storage warehousing related to distribution; whether inbound or outbound, transshipment warehouses or 'terminals' are used for bulking/de-bulking, stuffing/de-stuffing cross-docking and temporary storage (including CFS and ICD).
- Overall warehousing space in India is expected to grow at a CAGR of 8–9 percent during 2015–16, with the organised segment expected to grow by 16–18 percent (in sq. ft.) and the unorganised segment expected to grow by 6–7 percent during the same period.
- The majority of players in this industry are small/medium entrepreneurs running the warehouse as a CFA for one or more companies. The scale of these warehouses is not large enough to tap the economies of scale or justify investments in higher standards.
- However, the introduction of various government schemes, such as Gramin Bhandaran Yojana, Private Entrepreneurs Guarantee and negotiable warehousing receipts and government initiatives, such as granting infrastructure status to cold stores, is expected to propel the growth of the overall warehousing segment and is expected to increase human resource requirement in the coming years.
- With the evolution of specialised warehousing segment, such as cold stores and CFS/ICDs, several trends are driving the need for a more professional manpower and organised approach to warehousing activities.
- Specialised warehousing skills —picking and packing, inventory management, proper handling practices, including the usage of warehousing equipment, such as stackers and pallet trucks, and ability to understand and use warehouse management systems (WMS) — are required.
- As the roles of warehouses are evolving significantly, so are the demands from warehousing managers. While it is expected that warehouse managers in the organised sector have knowledge of the work aspects increasing play in the organised market outpaces the development of these skills, which is currently done through the internal training practices of the few market leaders.
- There exists a huge skill gap in warehouses in terms of soft skills or life skills, such as communication and business etiquette. The demand for educated and trained workforce is expected to increase significantly with the evolution of the warehousing sector

Economic growth

- Growth in overall consumption and production due to rising domestic and EXIM freight volumes
- Strengthened investment in infrastructure in 12th Five-Year Plan

Modern warehousing

- The emergence of modern warehousing formats primarily driven by growth in organised retail
- Growth expected from engineering goods, and IT, electronics and telecommunications sectors also

Advantage warehousing

Increased outsourcing

- More companies willing to outsource its logistics operations to focus on their core activities
- The emergence of global 3PL companies expected to drive the outsourcing of warehousing activities

FTWZ

- Free trade warehousing zones (FTWZs) still at a premature stage and remains largely unexplored
- Offers significant value-addition opportunities to multiple industries

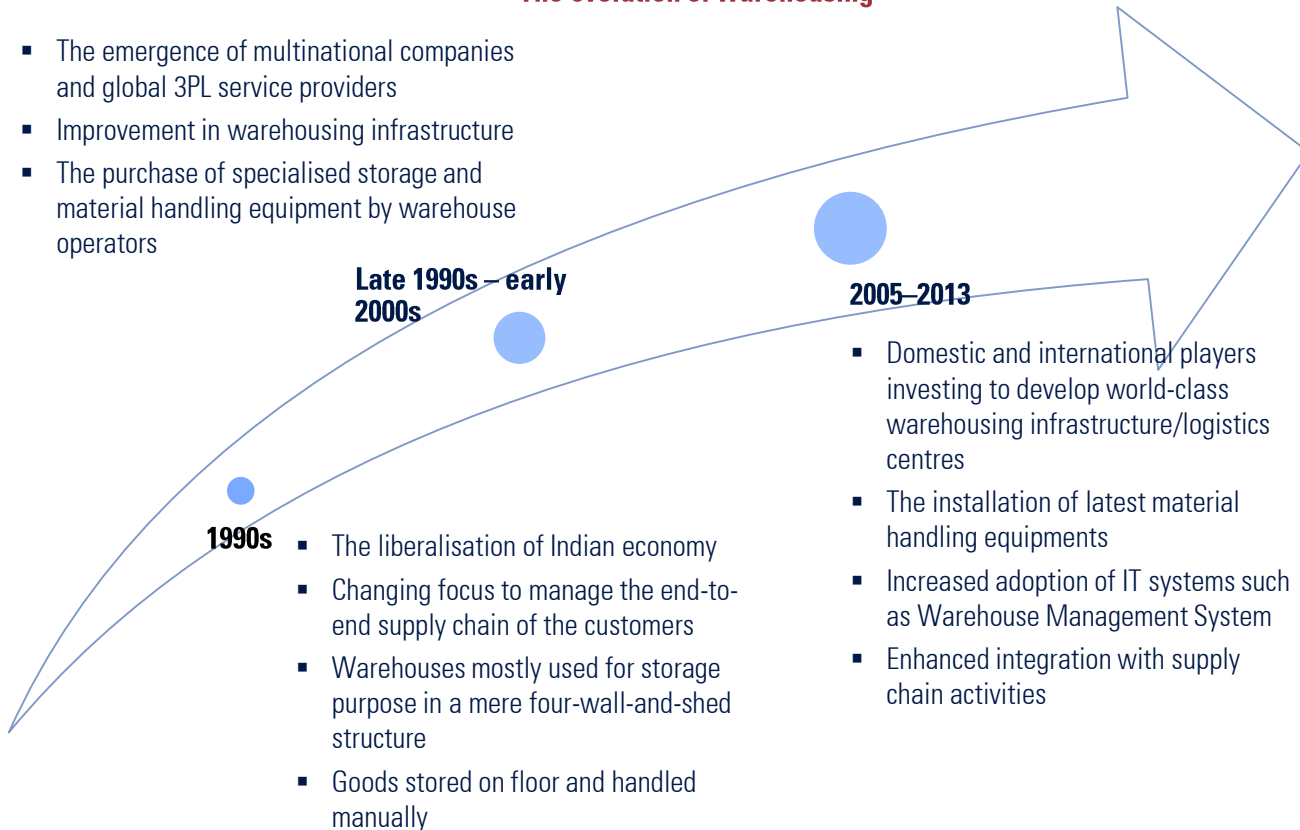
Sources: KPMG in India analysis; CRISIL research, assessed on 21 February 2014

Warehousing sub-sector

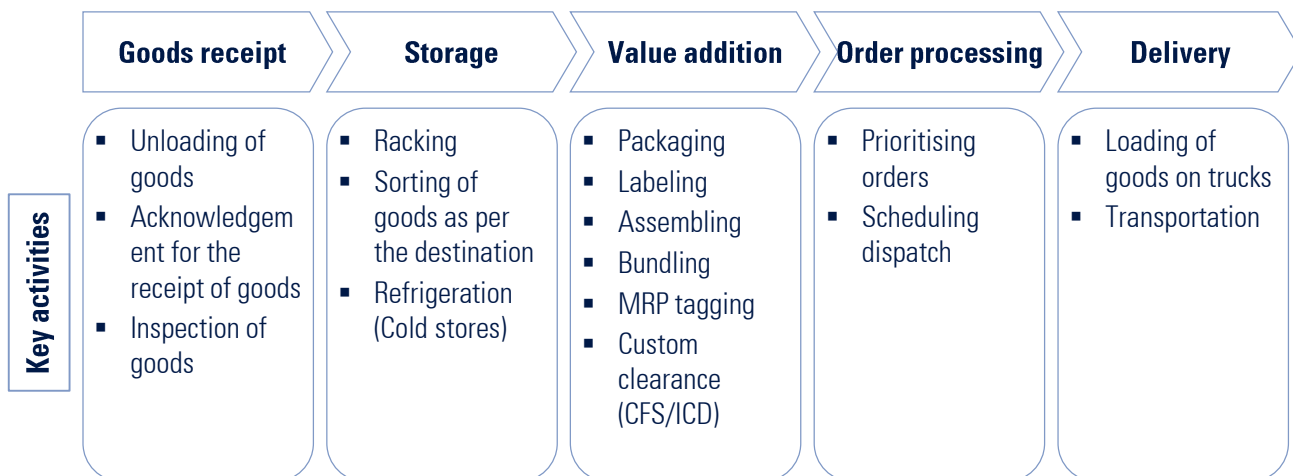
Evolution and value chain

Over the last two decades, the warehousing sector has rapidly evolved from traditional 'godowns' to modern facilities

The evolution of warehousing



Value chain — warehousing



Source: KPMG in India analysis

Warehousing sub-sector

Market size and structure

The structure of the warehousing sector

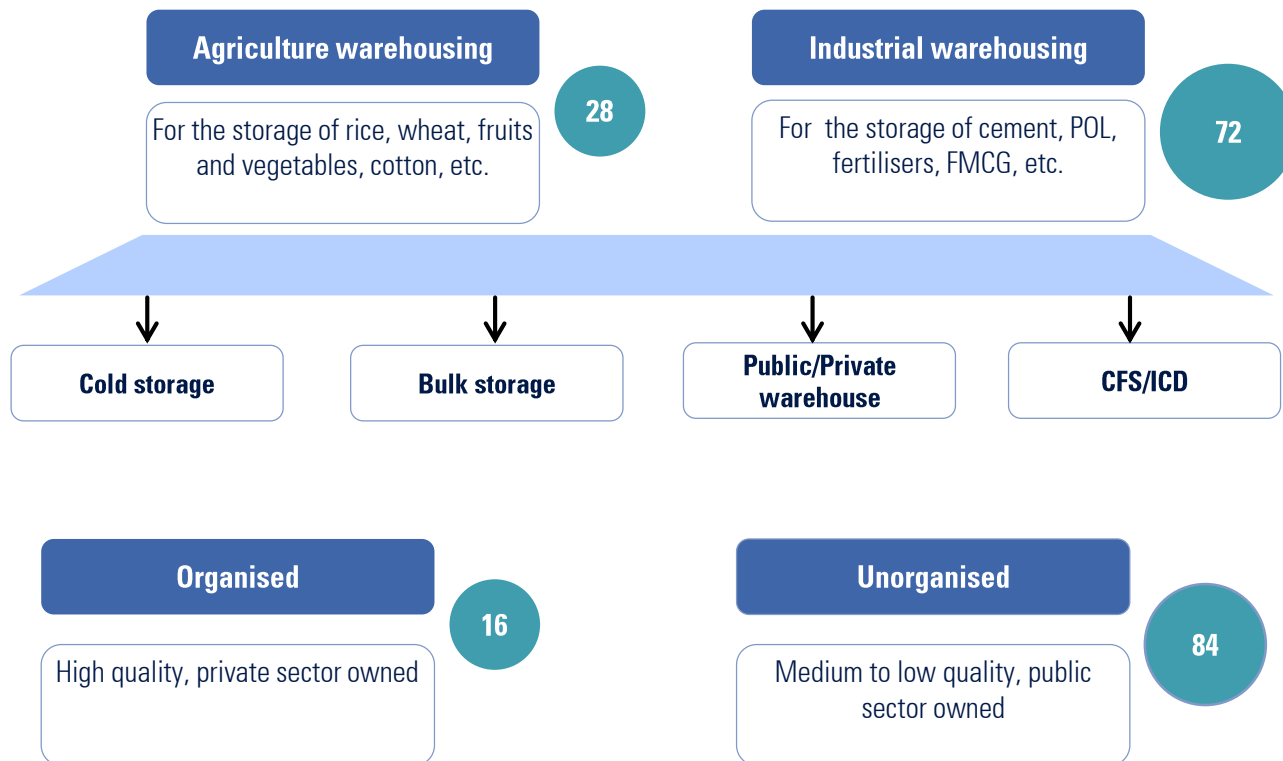
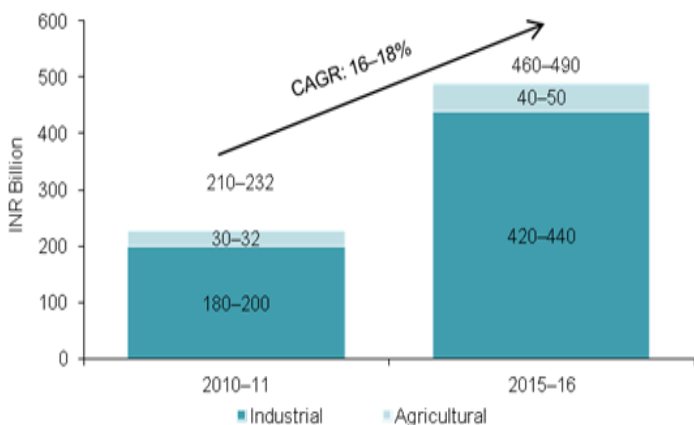


Figure represents percent contribution to warehousing market size in terms of value
 Source: KPMG in India analysis; Warehousing CRISIL report — December 2013, assessed in February 2014

Warehousing market size



- Indian warehousing segment has evolved significantly, resulting in a gradual metamorphosis from the traditional concept of godowns to modern formats.
- Further, interest and traction in the potential advantages that FTWZs offer has increased. The FTWZ concept has achieved remarkable success in other parts of the world.
- This is expected to create manpower demand for certain warehousing operations.

Source: CRISIL report on warehousing industry, November 2011, KPMG in India analysis

Warehousing sub-sector

Tax structure and infrastructure

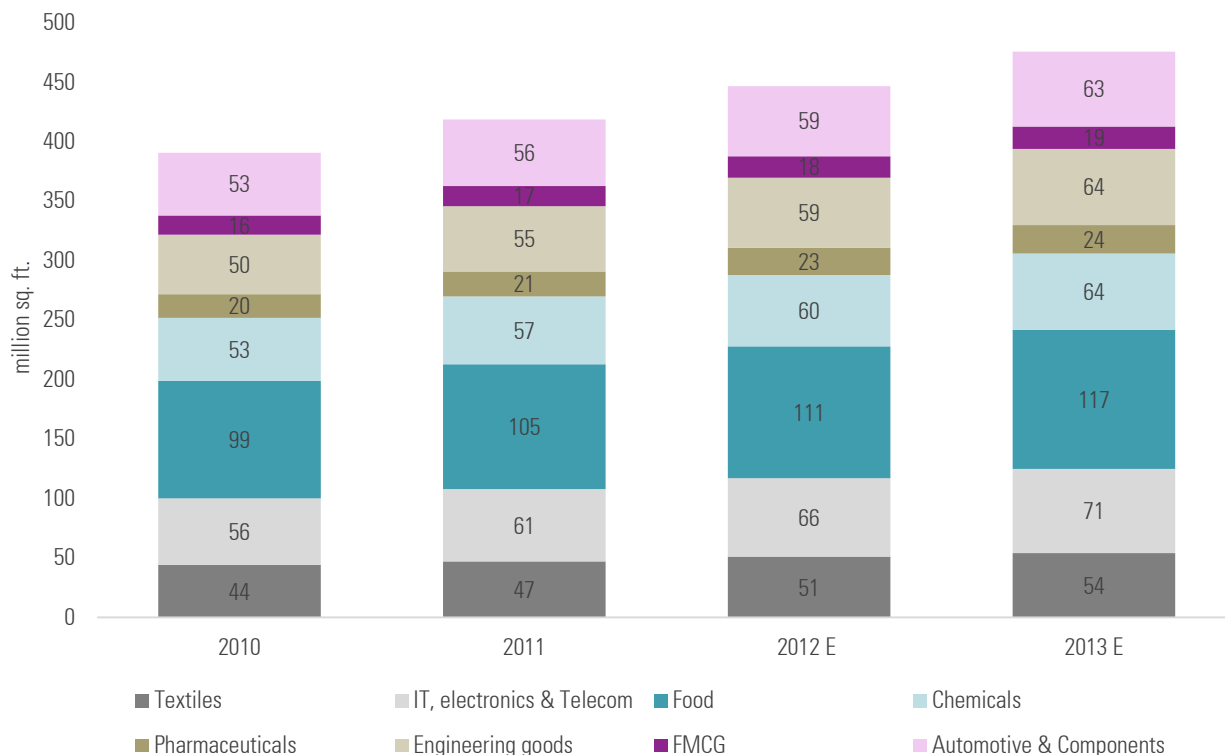
Historically	Going forward
Tax structure	
<p>Before GST Regime:</p> <ul style="list-style-type: none"> ▪ CST of 2 percent for inter-state goods transfer ▪ 20–30 warehouses per company, one in every state ▪ 20–30 C&F agents per state 	<p>Post GST Regime:</p> <ul style="list-style-type: none"> ▪ No inter-state goods transfer tax ▪ Consolidated warehouses ▪ Reduction in unorganised players ▪ Replacement of multiple layers of taxes with GST, which would operate at various stages of the supply chain
Size of warehouses	
<ul style="list-style-type: none"> ▪ Most warehouses are C&F godowns with approximate size of <10,000 sq. ft. ▪ Extreme crunch of large scale warehousing 	<ul style="list-style-type: none"> ▪ Focus shifting towards centralisation: The emergence of large scale warehousing, logistics parks (LPs) and Free Trade Warehousing Zones (FTWZs) <ul style="list-style-type: none"> ▪ 17 FTWZs approved and under development and 40 more FTWZs needed at key locations by 2015. Players such as Arshiya are very active in this space. ▪ There is immense potential of growth LPs. DFC-driven opportunities are being tapped actively by many players, but the industry is still nascent.
Quality of warehouses	
<ul style="list-style-type: none"> ▪ The basic features of warehouses: <ul style="list-style-type: none"> ▪ Poor infrastructure ▪ Only basic storage facilities available ▪ High pilferage and loss 	<ul style="list-style-type: none"> ▪ Automated warehouses, FTWZs and LPs to have following key features: <ul style="list-style-type: none"> ▪ World-class infrastructure ▪ Value-added services — mechanised handling, sorting, grading, packing, labelling, distributing, etc. ▪ Latest material handling technology

Source: KPMG in India analysis

Warehousing sub-sector

Market demand

Modern warehousing market demand

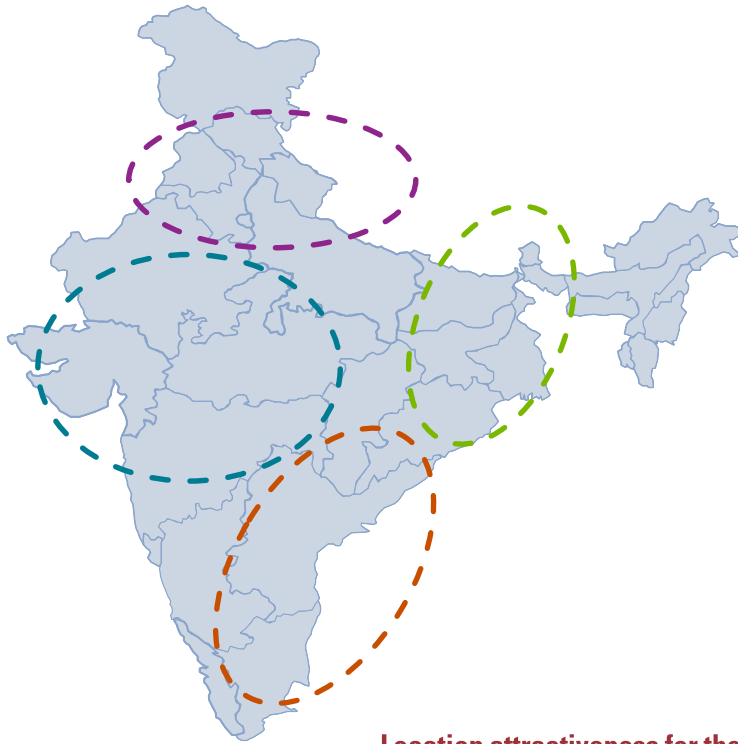


- The share of modern warehousing is anticipated to grow from 15 percent (62 million sq. ft.) in 2010 to 30 percent (178 million sq. ft.) by 2015.
- Among the analysed sectors, the highest growth is expected from engineering goods, and IT, electronics and telecommunications sectors, estimated to grow at CAGRs of about 8.6 and 8.2 percent, respectively, during 2010–13. The other analysed sectors are estimated to witness growth in the range of 5.7 to 7.1 percent.
- This sharp growth is expected to be driven by rising domestic and EXIM freight volumes, increased outsourcing to 3PL players, strengthened investment in infrastructure, organised retail and the impending implementation of Goods and Services Tax (GST).
- The development of key infrastructure projects related to ports, highway and rail projects — such as the Golden Quadrilateral project, North-South-East-West project and the Dedicated Freight Corridor project — is expected to result in the creation of new warehousing hubs aligned to these infrastructure corridors, such as Mumbai and NCR.
- Several players in India have announced next generation storage models including multi-modal logistics parks (MMLP), mega food parks (MFP), and free trade warehousing zones (FTWZ). These projects are expected to come up in northern and western regions and would generate significant demand for skilled labour that can help customers optimise its warehousing costs.
- For warehousing operators to sustain in the competitive environment, it is important that the service providers develop skills in both core (put-away, store, pick-up) and non-core (value addition, order processing) activities.

Warehousing sub-sector

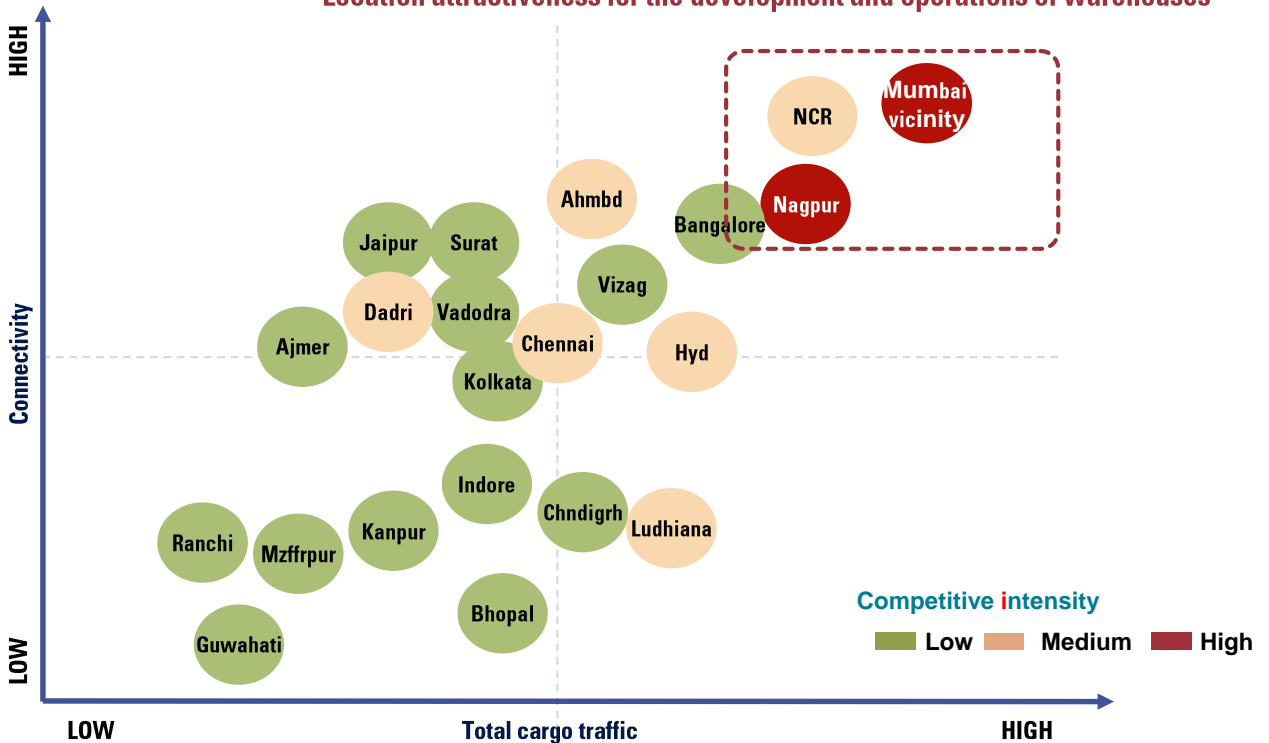
Geographical locations of warehouses

Mumbai, National Capital Region and Nagpur are most attractive locations, followed by locations primarily in major western and southern cities



Legend	Cities
	Kandla, Porbander, Bhavnagar, Mumbai , Pune, Nasik, Nagpur , Vadodara, Ahmedabad
	Vishakhapatnam, Hyderabad, Vijayawada, Chennai, Coimbatore, Madurai, Mysore, Bangalore
	NCR , Sonapat, Faridabad, Jaipur, Kanpur
	Durgapur, Kolkata, Medinipur













Location attractiveness for the development and operations of warehouses



Source: Warehousing Market in India — September 2012, Netscribes, accessed on February 2014; KPMG in India analysis

Warehousing sub-sector

Global comparison

Comparative analysis of key variables in warehousing space			
Parameters	India	China	USA
Market Maturity <i>(Fragmentation by contribution of key players to the total industry cost)</i>	<ul style="list-style-type: none"> Unorganised, fragmented warehousing industry 	<ul style="list-style-type: none"> Highly fragmented, top 20 companies contribute to 7 percent of revenue 	<ul style="list-style-type: none"> 20 largest companies control less than 30 percent of the market
Warehouse infrastructure:	<ul style="list-style-type: none"> Godowns with approximate size of <10,000 sq.ft Multiple warehouses, one in every state Poor infrastructure High pilferage and loss 	<ul style="list-style-type: none"> Market is fragmented in terms of operator's geographical presence Average level of infrastructure with small godowns 	<ul style="list-style-type: none"> Warehousing companies operate a single facility of 200,000 sq. ft. Excellent infrastructure
<ul style="list-style-type: none"> Size Centralisation of warehouses Infrastructure 			
Value-added services			
Level of outsourcing			
Skilled labour	<ul style="list-style-type: none"> Labour available, but under-trained 	<ul style="list-style-type: none"> Labour available, but under-trained 	<ul style="list-style-type: none"> Highly skilled and trained labour
Technology used			
Consolidation: <i>Logistics, the level of the usage of large-scale parks and Free Trade and Warehousing Zones</i>			

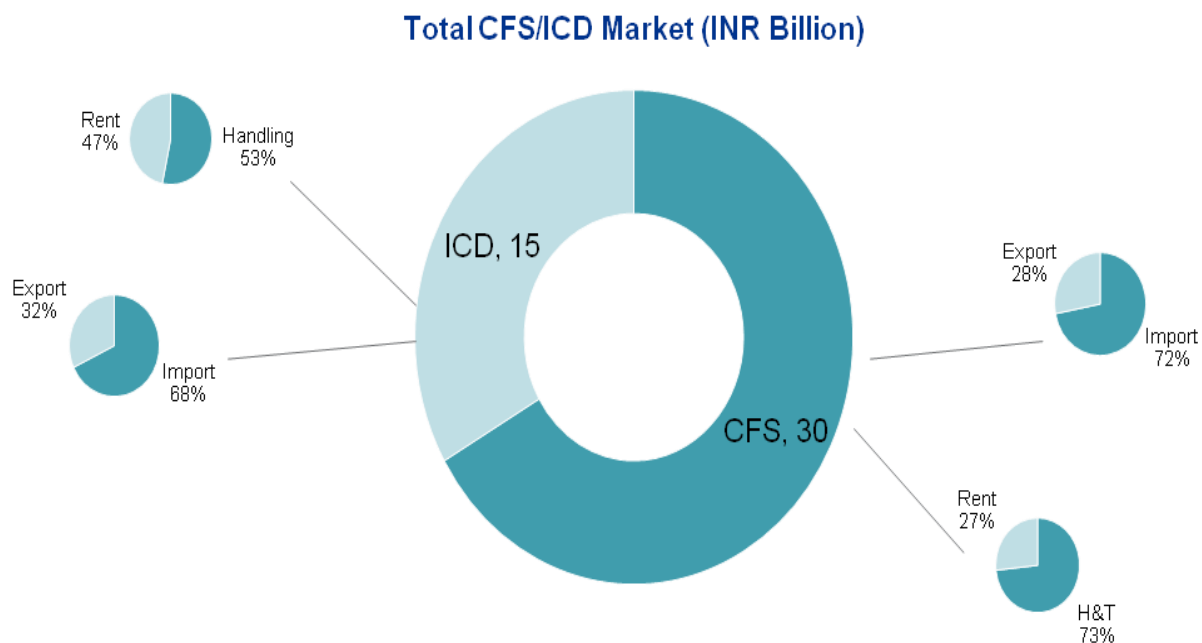
Legend



- India's warehousing industry is at a nascent stage as compared to that of the US and European countries.
- The Indian warehousing sector operates highly inefficiently and until recently, most of the warehouses were basic godowns
- While Indian warehouses have traditionally been basic godown facilities with poor infrastructure, warehouses in developed countries have excellent infrastructure and are equipped with modern equipments for various tasks, such as material handling and loading/unloading
- While India's warehousing industry has access to abundant labour with poor training, warehousing staff in developed countries such as the US are highly skilled with requisite training for carrying out warehousing operations.

Source: KPMG in Hong Kong report on Transport in China, primary interviews

CFS/ICD market size



- The CFS/ICD market is integral to the logistics sector's infrastructure. ICDs are also known as dry ports, as they cater to hinterland container traffic.
- Estimated at INR 45 billion in FY13, CFSs and ICDs generate about two-thirds of their revenues from ground handling and transportation activities, while ground rent accounts for the rest.
- Imports contribute as much as 72 percent of the total CFS/ICD market, with CFS accounting for about 67 percent of import revenues.
- Decreasing container volumes and dwell time, as well as rising competition, are expected to lead to a decline in the CFS/ICD market in FY14. However, the industry is projected to grow by 5–6 percent (in terms of value) and 9–10 percent (in terms of volume) over the next five years, as the economy is expected to recover after FY14.
- Strong growth prospects and healthy profit margins continue to drive investments in the CFS and ICD segments and is expected to generate manpower requirement for specialised skill sets, such as loading/unloading and stuffing/de-stuffing, at the operational level.

Figures for FY13; H&T refers to handling and transportation; rent is ground rent

Source: CRISIL report on CFS/ICD: October 2013, accessed on February 2014; KPMG in India analysis

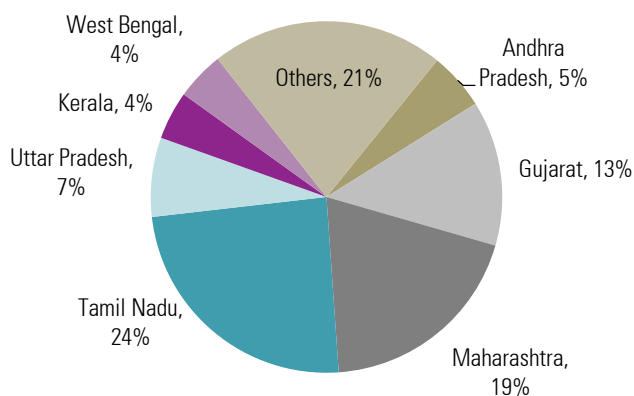
Warehousing sub-sector

Geographical distribution of CFS/ICDs

CFS/ICDs are largely concentrated in Gujarat and Tamil Nadu and generate maximum demand in northern, western and southern clusters

States	No. of CFS/ICDs
Andhra Pradesh	13
Bihar	1
Chandigarh	1
Chhattisgarh	1
Goa	1
Gujarat	33
Haryana	9
Himachal Pradesh	1
Jharkhand	1
Jammu & Kashmir	2
Karnataka	8
Kerala	11
Maharashtra	48
Madhya Pradesh	7
Orissa	2
Puducherry	2
Punjab	7
Rajasthan	10
Tamil Nadu	60
Uttar Pradesh	18
West Bengal	11

CFS/ICDs by state (100 percent = 247)



- Demand for CFS/ICD are mainly generated from about 30 major EXIM container movement clusters, which exist in the Indian hinterland. Northern region accounts for about 10–12 such clusters, followed by 8–10 and 4–6 clusters in the western and southern regions, respectively.
- Correspondingly, the CFS/ICD infrastructure is also concentrated in western, southern and northern regions, with Tamil Nadu, Maharashtra and Gujarat contributing to 24 percent, 19 percent and 13 percent, respectively.
- Thus, the demand for skilled labour that can handle custom clearance and storage operations at CFSs is expected to be generated in western and southern regions. The demand for skilled labour at ICDs is expected to be generated from hinterland locations in the northern region.

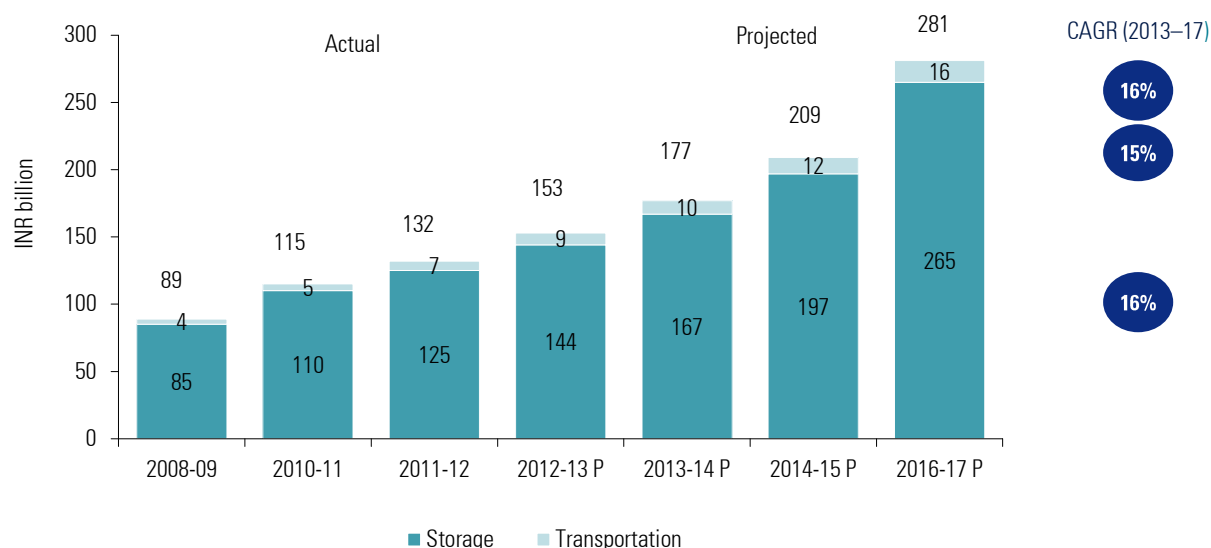
Note: Figures are till June 2011

Source: KPMG in India analysis; Ministry of Commerce, Government of India

Warehousing sub-sector

Cold chain overview and market size

Cold chain market size



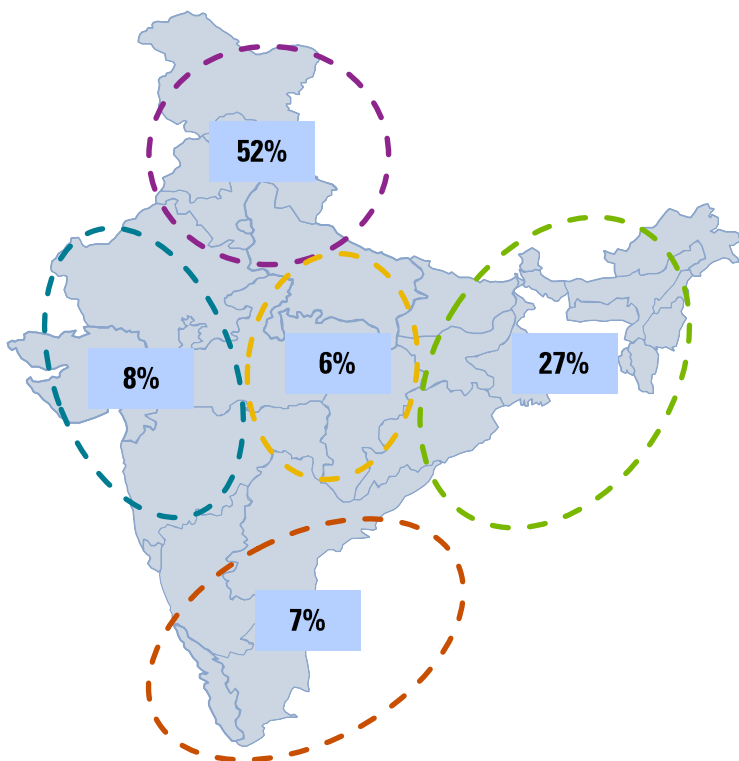
- The cold chain sector in India has come a long way since the 1960s and is expected to grow over the next decade despite several challenges
- India's cold chain sector is still developing in comparison to other countries. About 80-85 percent of the total storage capacity in India's cold chain sector is unorganised. A majority of units are designed for storing only potatoes and use outdated technology. Complex supply chain models, limited resources and several other challenges result in the wastage of 25-30 percent of agricultural produce every year.
- In Thailand, the cold chain sector was highly unorganised until a decade ago. However, the emergence of organised retail and government assistance has helped the country build a modern cold chain infrastructure.
- As there are several similarities between the market dynamics of Thailand and India, we can expect a significant transformation in India's cold chain sector over the next decade. This would be possible only when stakeholders collaborate to develop efficient cold chain infrastructure and ensure proper policy implementation.
- Valued at INR132 billion in 2012, the Indian cold chain industry is expected to grow at a CAGR of 16 percent until 2016-17. Transportation is expected to grow at a higher CAGR of 18 percent as compared to storage, which is expected to grow at a CAGR of 16 percent during 2012-17.
- This increase in demand for cold storage services is expected to generate manpower requirement, which is technically competent to understand the temperature and humidity control requirements of various perishables and operating sophisticated controlled atmosphere equipment

Source: KPMG in India analysis, CRISIL report on Cold Chain, accessed on February 2014, US trade and development agency

Warehousing sub-sector

Cold chain geographical spread

Cold stores are largely concentrated in the northern region and have been traditionally used for the storage of potatoes



Geographical distribution of cold stores (by capacity)

Legend	Region	No. of cold stores	Capacity (in MMT)
	Western	990	2.2
	Southern	866	1.9
	North	289	14.9
	Eastern/N E	975	7.8
	Central	430	1.7

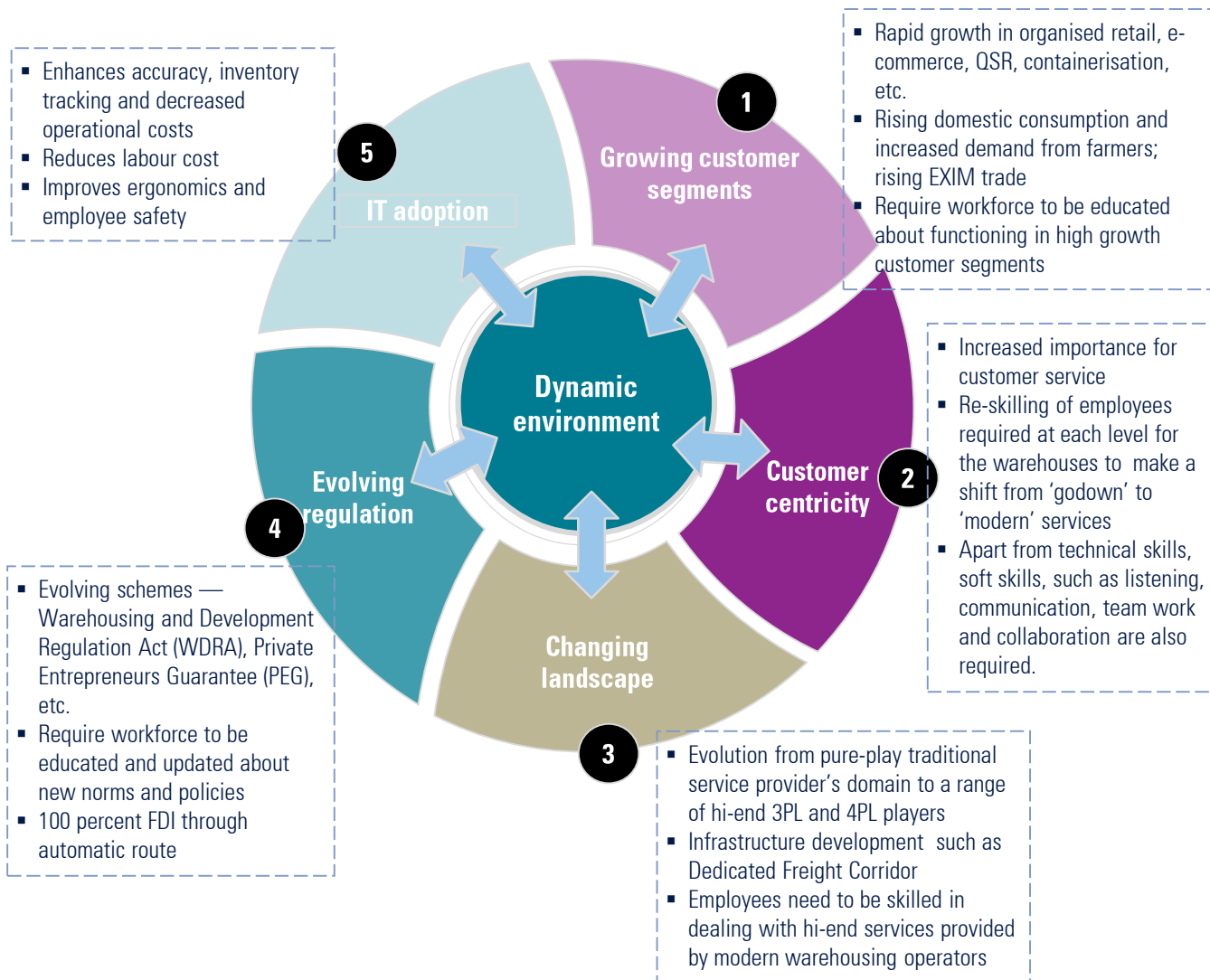
- India's cold storage capacity is mainly concentrated in the northern region, with Uttar Pradesh accounting for the largest number of cold stores by states due to the storage for potato. West Bengal accounts for the second-largest number of cold stores in India, mainly due to the predominance of potato.
- Most of the multi-purpose cold storage facilities are located in Maharashtra, National Capital Region (NCR), Tamil Nadu, Maharashtra and West Bengal for commodities, such as chillies, vegetables and dry fruits, etc.
- As 75 percent of the total cold storage capacity is used for storing potatoes, manpower needs to be trained to understand requirement for storage and preservation of potatoes at right temperature and ambience.

Note: Figures as on March 2011

Source: KPMG in India analysis; Planning Commission of India report, May 2012, accessed on February 2014

Warehousing sub-sector

Growth drivers



- With the rising demand for warehousing services by the end users, warehousing operations are expected to play an important role.
- However, a large number of warehousing activities in India are carried out by generalists, who do not have any specific expertise to handle warehousing operations.
- Changes in the past decade require warehouses to re-skill and train their workforce to stay competitive in today's dynamic environment
- With rapidly changing industry landscape and the need for value-added services associated with warehousing operations, it is important that dedicated training institutes should be introduced to teach basic skills, such as picking, packing, inventory management and the use of information technology.
- Similarly, with the growing requirement of CFS/ICD and cold stores, technically competent manpower is required that can handle basic operations.

Source: Reserve Bank of India; KPMG in India analysis

Warehousing sub-sector

Government policies and initiatives

1

National policy on handling, storage and transportation

- The policy was introduced in June 2000 with an aim to cut storage and transit losses of food grains.
- Under the policy, integrated bulk grain handling, storage and transportation facilities to the tune of 5.5 lakh MT have been created through private sector participation on Build-Own-Operate (BOO) basis.

2

Shift to GST tax regime

- Major transition from central sales tax to the existing VAT regime coupled with the introduction of single tax goods and services tax (GST) allowing for the lower logistics costs
- Expected to lead to large warehouses offering various services via integration of technology

3

Warehousing Act

- The Warehousing Act, 2007 introduced a negotiable warehouse receipt (NWR) system
- NWR's are expected to facilitate foreign investments as it provides cost advantages and eases trade procedure for players

4

Private investments

- Government has been encouraging private players to develop logistics parks and Free Trade Warehouse Zones in order to boost this sector by drawing in large scale investments
- Several logistics parks under development around the major logistics hubs of Mumbai, Bangalore, Chennai, Hyderabad and NCR.

5

Infrastructural developments

- Impetus has been on developing transport infrastructure to decongest road networks
- Golden Quadrilateral and NSEW (North-South-East-West) Road Corridor are two major initiatives forwarded by the government
- Dedicated Freight Corridor expected to enhance freight movement through rail significantly

6

The development of the cold storage facilities

- National Center for Cold Chain Development set up in 2011
- Cold stores given the infrastructure status
- 100 percent FDI allowed through automatic route
- 5 percent concession on import duty, service tax exemption, excise duty exemption on several items. The subsidy of over 25 percent to 33.3 percent on the cold storage project cost

Source: *Warehousing Market in India* — September 2012, Netscribes, accessed on February 2014; KPMG in India analysis

Warehousing sub-sector

Government policies and initiatives

The implementation of government policies is expected to create huge demand for skilled resources in the warehousing sector

Policies	Overview
<ul style="list-style-type: none"> ▪ Warehousing (Development Regulatory) Act, 2007 	<ul style="list-style-type: none"> ▪ <u>Negotiable Warehouse Receipts (NWRs)</u>: WDRA formulated NWRs allowing farmers to get the best price for their production and help reduce the prices of commodities by eliminating the arbitrage earned by middlemen. It is currently running an awareness programme to educate farmers about the Negotiable Warehouse Receipts process. ▪ <u>Rural Godown Scheme</u>: Launched in 2001 to provide the subsidy at 25 percent of the project cost for the construction/renovation of rural godowns to all the categories of farmers, agriculture graduates, cooperatives and Central Warehousing Corporation (CWC)/State Warehousing Corporations (SWCs) subject to a maximum ceiling of -INR 46.87 lakhs. ▪ <u>Rural Infrastructure Development Fund (RIDF) Scheme</u>: Government allocated INR 2,000 crores during 2011–12 for setting up of warehouse infrastructure in the country.
<ul style="list-style-type: none"> ▪ Private Entrepreneurs ' Guarantee (PEG) Scheme 	<ul style="list-style-type: none"> ▪ Government formulated a scheme for the creation of additional storage capacity for food grains through private sector participation in 2008. ▪ A capacity of about 15.29 million MTs is proposed to be created in 19 states under the scheme through PPP and central and state warehousing corporations. ▪ Food Corporation of India would give a business guarantee of ten years for assured hiring. ▪ Guarantee period increased from five years to seven years and subsequently to 10 years to make the scheme attractive for private participation. ▪ For meeting the capital expenditure on construction of silos, the private entrepreneurs would be eligible for Viability Gap Funding (VGF) under the existing VGF scheme, which allows grants of up to 20 percent of capital cost on the basis of competitive bidding.
<ul style="list-style-type: none"> ▪ Mahatma Gandhi National ▪ Rural Employment Guarantee ▪ Act (MNREGA) 	<ul style="list-style-type: none"> ▪ Food storage godowns in rural areas will be constructed under Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA) as Rural Development Ministry accepted the proposal by Food Ministry. ▪ In order to develop warehouse infrastructure, godowns for food storage would be constructed at village and taluka level.

Warehousing sub-sector SWOT analysis

<p>Strengths</p>	<ul style="list-style-type: none"> ▪ The existence of government policies such as Warehousing Development and Regulatory Act (WDRA) ▪ Tax incentives such as tax relief under 80(I)(B) on warehousing income ▪ Infrastructure status to cold storage facilities ▪ Subsidies schemes for agri-warehouses and cold stores ▪ 100 percent FDI allowed through automatic route ▪ Favourable government policies, regulations and subsidies provided to promote infrastructure development ▪ Infrastructure status to cold storage facilities ▪ Usage of technology for warehouse process automation ▪ Operators providing vertical specific customised solutions ▪ Highly customised industry-specific solutions, with usage of high end technology for warehouse operations ▪ Favourable policies and regulations to promote investments ▪ Integrated centralised warehousing facilities that control network at a national level ▪ Favourable lending bank policies for developers ▪ World-class infrastructure
<p>Weaknesses</p>	<ul style="list-style-type: none"> ▪ Lack of sufficient and modern/international warehousing infrastructure ▪ Lack of integration with complete supply chain; warehouses currently treated as a stand alone service ▪ Unprofessional and untrained warehousing staff ▪ Underdeveloped state of industry-specific customisation capabilities ▪ Asset-heavy nature of the business with huge initial capital investment and larger pay back periods ▪ Inadequate world-class warehousing infrastructure ▪ Inappropriate integration with the entire supply chain ▪ Asset-heavy nature of the business with huge initial capital investment ▪ Asset-heavy nature with huge initial capital

Source: KPMG in India analysis as on February 2014

Warehousing sub-sector SWOT analysis

Opportunities	<ul style="list-style-type: none">▪ Maturing industry segments, such as automotive, retail, pharmaceuticals and agriculture▪ Rising EXIM trade to create demand for CFS/ICD▪ Development of Dedicated Freight Corridors, Delhi-Mumbai Industrial Corridor▪ Focus on the development of national-level centralised warehousing model with the implementation of GST▪ Significant investment opportunities in southern and eastern region as well▪ Rising domestic consumption and EXIM trade to enhance the usage of warehouses▪ Development of centralised warehousing model▪ Significant requirement of rail-side warehousing infrastructure along DFCs
Threats	<ul style="list-style-type: none">▪ Lack of adequate and timely credit at a reasonable cost due to high risk perception among banks▪ Complex tax regime and delays in the implementation of GST discourage the establishment of centralised warehousing units▪ Economies of scale can't be achieved due to fragmented market with unorganised players▪ Issues in land procurement due to the lack of existing land classification and delay in requisite approvals▪ Inadequate infrastructure financing through national and private banks▪ Fragmented market with the presence of small players▪ Warehousing not seen as an integrated service in the logistics supply chain▪ Highly competitive sector for new entrants▪ Stagnating demand for more warehousing facilities

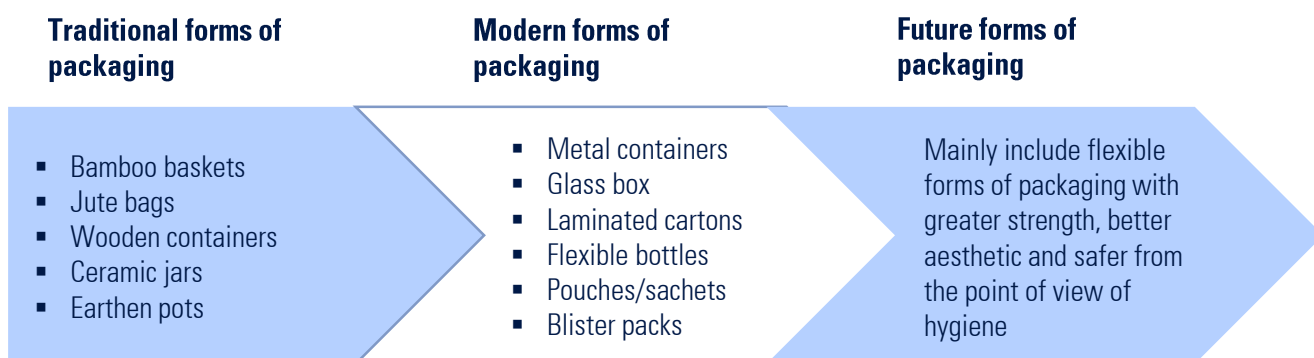
Packaging sub-sector

Packaging sub-sector

Industry overview

- Packaging industry is an important sector, adding value to the various manufacturing sectors, including agriculture and the FMCG segments. It is a coordinated system of preparing goods for logistics activities, sales, and end usage and mainly protects the goods from damage and spoilage.
- The Indian packaging market was estimated at USD 20.2 billion in 2011, and is expected to grow at a 12-14 percent CAGR to reach USD 37.4 billion by 2018.
- The packaging industry is poised to grow rapidly due to the increased use of innovative packaging equipments and increased demand for flexible packaging. With an increasing investment by domestic as well as the foreign companies in the Indian food processing and pharmaceutical sectors, the market for packaging industry has expanded rapidly.
- The growth of the organised retail sector in India would create a huge demand for the **packaging** industry. Further, this demand would generate a wide range of job opportunities.
- With packaging becoming more technology oriented as innovative products are driving the market, the trend is likely to lead to higher shelf-life of the product, reduced cost and lightness in weight.
- A majority of players in this industry are small/medium-sized companies catering to the regional demand. The scale of these companies is not large enough to tap economies of scale or justify investments in higher standards.
- To make packaging at par with the international standards, Indian Institute of Packaging, which works under the Ministry of Commerce and Industry, has taken several steps to start dedicated degree programme in packaging technology and management and set up world-class universities that would offer B.Tech, M.Tech, PhD and other research programmes.
- The packaging sector is witnessing a significant shift from traditional to modern, technology-driven forms of packaging and thus generating the need for packaging professionals with requisite technical expertise
- With more than 22,000 companies needing packaging professionals, the education needs to be at par with that of IIT and NIT standards and thus, needs to be more engineering oriented.

Evolution of packaging

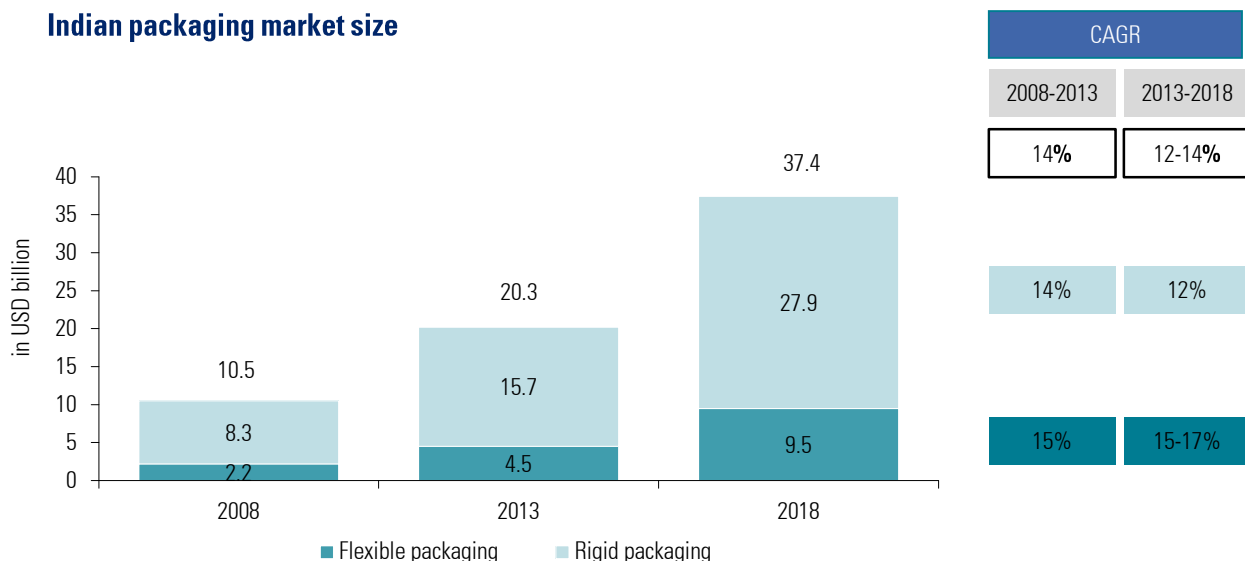


Packaging sub-sector

Market size and structure

The industry is highly fragmented with rigid packaging accounting for significant market share

Indian packaging market size



Organised

Mainly laminated product segment, such as form-fill-seal pouches and tetra packs

50

Unorganised

All other segments except laminated segment

50

Figure represents percent contribution to packaging market size by volume

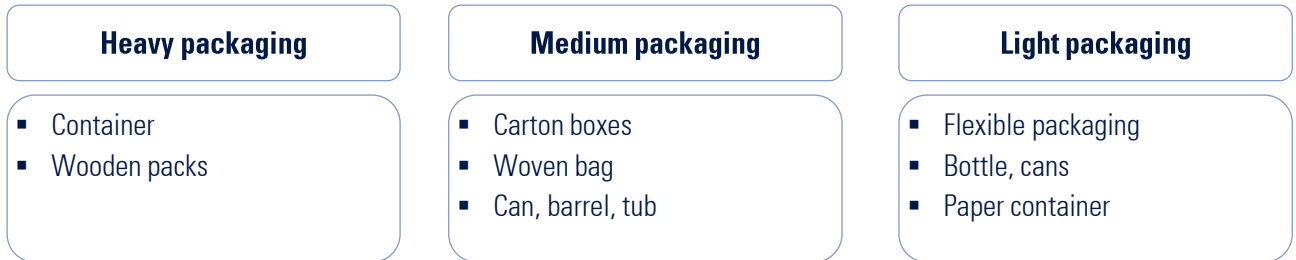
- The market is highly fragmented with large number of small-scale companies and a few large integrated players. With more than 22,000 registered packaging companies in India, approximately 85 percent of them are medium to small enterprises spread across India and are not concentrated in any specific clusters/regions.
- The biggest driver for the market is the rapid growth in end-use segments, such as consumer products, driven by growing consumer incomes, the rising penetration of modern retail trade formats and rising brand allegiance.
- As the industry grows and matures, there is expected to be a trend towards consolidation as the supply side companies merge and acquire smaller companies.
- With the growth of packaging industry, the country would need more packaging professionals with specific skills sets in technology and management to cater the growing demand for the end-user industry.

Source: Aranca report – Packaging Industry: A Review ; KPMG in India analysis

Packaging sub-sector

Market size and structure

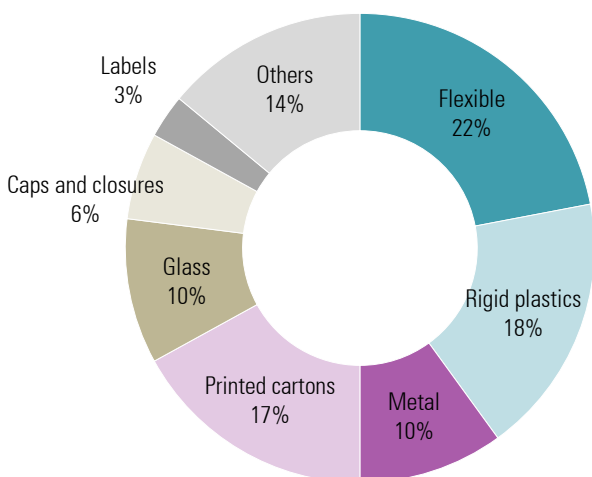
Market structure — by shape



Market structure — by material



Share of packaging medium

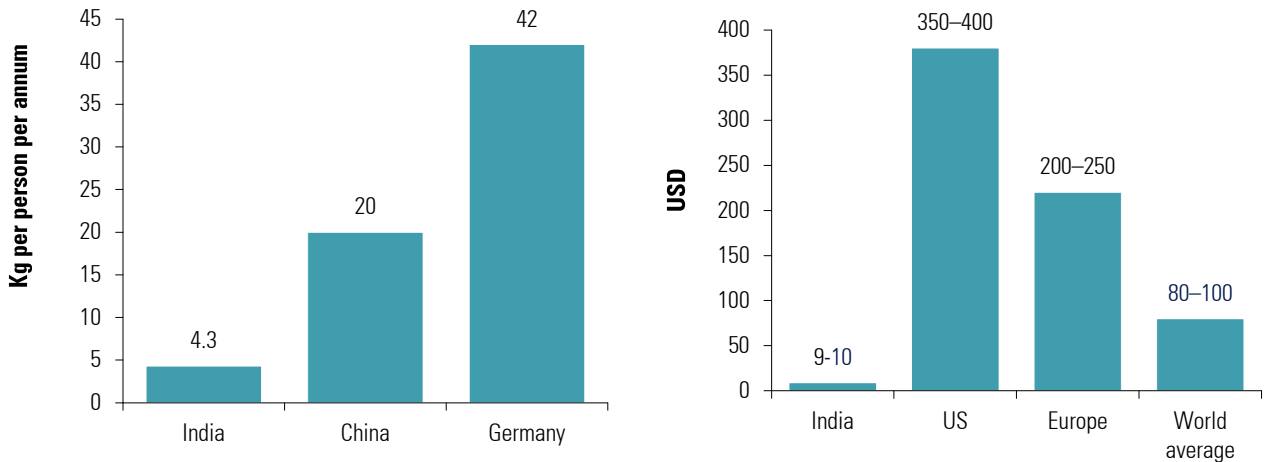


- Legacy rigid packaging formats—glass bottles, metal cans and corrugated boxes — comprise around 78 percent of the total market and remaining (28 percent—comprises flexible packaging).
- This trend is similar to the global market where flexible packaging accounts for approximately 18 percent of the total packaging market.
- Flexible packaging is the fastest-growing segment of India’s packaging sector due to its attractiveness, cost-effectiveness and strength. This segment is expected to generate maximum manpower requirement in the near future.

Packaging sub-sector

Global comparison

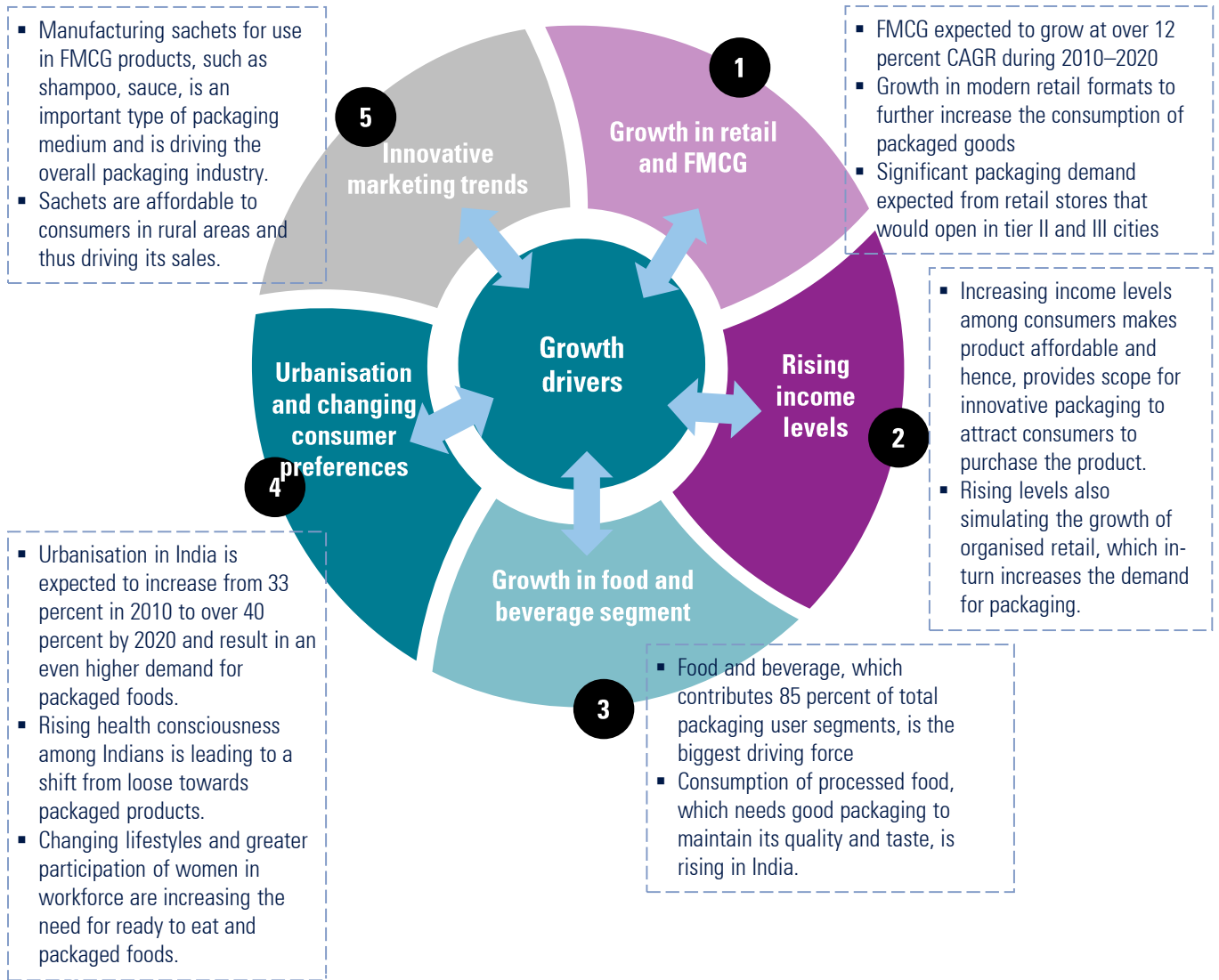
India's per capita consumption of packaging is significantly low as compared to global standards, highlighting huge untapped opportunity



- India's per capita package consumption at USD 9 clearly highlights the lack of packaging consumption, currently, by Indian consumers as compared to the global average at USD80–100.
- Similarly, India's per capita consumption by weight (in kilograms) is also very less at 4.3 kilogram as compared to that of global standards, with Germany at 42 kilogram and China at 20 kilogram.
- The Indian per capita plastic consumption is much lower even when compared to their Asian peers leaving scope for higher growth in the future.
- Moreover, increased trade with developed countries will enhance the aesthetic and quality norms of the Indian consumers. This will increase the consumption of branded products and increase the use of flexible innovative packaging.
- This highlights significant scope for innovation in the packaging materials and technology to convert traditional packaging into modern, processed and well presented packages. This advancement would generate significant requirement of skilled labour and thus, encourage professionals to pursue specialised packaging technology and management courses initiated by the Indian Institute of Packaging.

Packaging sub-sector

Growth drivers



- With the growing consumer awareness and education levels among rural and urban Indians, the need for hygienic and eco-friendly packaging materials is expected to increase. This requires the need for highly trained and educated manpower who can carry out packaging operations customised to the need of end-user industries, including food and beverage, and pharmaceuticals.
- Moreover, shift in demand from rigid (metal/glass) to flexible (plastic/paper/laminated) packaging will be the key driver to higher the level of processing and quality amongst the urban consumers.
- Innovative marketing, urbanisation and changing consumer lifestyles are some of the key growth drivers that would lead to significant manpower requirement in the packaging sector

1

New packaging norms on standard pack sizes

- The new norms on packaging set by the Consumer Affairs Ministry in India came into effect on 1 November 2012.
- As per this, players will have to mandatorily pack items in standard sizes only, taking away the leeway to tweak weight to accommodate rising raw material costs, without impacting prices for the consumer. Small pack sizes, vital as recruiter packs for new consumers, are exempt from the new rules.

2

Food Safety And Standards Regulations, 2011

- The regulation provides clearly defined labeling requirements for all the foods packaged in India.
- To meet new food packaging industry norms, Indian companies will need to look at technological innovation, to meet higher quality standards. While it was earlier required only to meet certain technical guidelines on material usage, the process of packaging was not under the scanner, as it will now be.
- This may be a challenge at first for smaller players who might need to upgrade their processes and infrastructure to meet the newer, more stringent norms of standardisation.

3

Ban on usage of flexible plastics for tobacco products

- In February 2011, the Supreme Court of India banned the usage of flexible plastics for tobacco products.
- This notification was aimed at clearing the impact that these millions of smaller sachet packs were having on the overall environment and the cities' ecological systems.
- The consumption of polyester film in *pan masala* and *gutkha* accounts for around 30–35 percent of the domestic demand, thus severely impacting players for whom this was a core business.

4

Environmental issues impact on plastic materials

- The Indian packaging industry accounts for more than 50 percent of the plastics produced in the country.
- Due to the growth in packaged goods consumption, the Indian packaging industry has been under the lens of environmental agencies and regulators. This has resulted in increased legislation and regulations to minimise the environmental impact of packaging materials.
- Companies, especially in the flexible and rigid plastics, are being targeted by the regulators as in the regulator's view, these are seen to have the maximum impact on the environment.

Packaging sub-sector SWOT analysis

Strengths	<ul style="list-style-type: none"> ▪ Increasing working population will trigger the demand for packaged food and products ▪ Rise in urban population will increase the consumption of packaging materials ▪ Changing lifestyle patterns and health cautious customers are creating demand for flexible and hygienic packaging ▪ Raw materials required for packaging are available in the country ▪ Changing requirements in rural markets have resulted in innovation in packaging ▪ Rising middle-class income levels, increasing urbanisation and changing lifestyle patterns, with educated users will increase demand for innovative packaging ▪ Availability of educated workforce having requisite skills in packaging technology and management ▪ Flexible packaging materials available at low cost
Weaknesses	<ul style="list-style-type: none"> ▪ Inappropriate focus on quality control of the packaging materials ▪ High cost of packaging equipments and machinery ▪ Lack of skilled labour specialising in packaging technology and management ▪ High cost of packaging equipments and machinery ▪ High cost of educated workforce with recognised degree in packaging technology as compared to industry standards
Opportunities	<ul style="list-style-type: none"> ▪ Changing formats of retail outlets ▪ Increased penetration of foreign players who are large consumers of packaging solutions, in organised retail ▪ Innovative marketing of products in rural parts of India ▪ Low level of manufacturing and labour cost as compared to other countries ▪ Presence of large format retail stores, which consumes significant amount of packaging material ▪ Innovative marketing of products in rural parts of India
Threats	<ul style="list-style-type: none"> ▪ Increasing prices of Kraft papers and lack of international standard papers at affordable rates for packaging materials ▪ Resistance of corrugated box users to offer sustainable prices ▪ Highly competitive and cyclical industry ▪ Environmental issues related to usage of select packaging materials ▪ Environmental issues related to usage of select packaging materials ▪ Highly competitive and cyclical industry

**Incremental human
resource requirements
(2013-17, 2017-22) and
skill gaps**

Incremental human resource requirements (2013-17, 2017-22) and skill gaps

Skill gap analysis across levels in sub-sectors

Railways

- No major or glaring skill gaps exist in the sector due to the in-house training infrastructure in place
- Rapid introduction of modern technology though it creates gaps in technical areas, such as signaling and telecom
- New players entering the rail container segment market on the other hand will require skills that only exist within the railways, thus, developing a potential problem
- Railways is facing increase in attrition due to gradual opening of the sector. Overhauling the curriculum and infrastructure combined with rolling out training to even the lowest levels of the workforce is essential

Roadways

- India is not known for the quality of its roads and this facet needs to be changed immediately.
- Casual labour in the market takes care of the need for employment in the lower levels of the organisation.
- The dearth of formally trained drivers and junior employees is one of the common problems that the industry faces. This impact is felt on the overall efficiency of operations.
- Severity of skill issues that exists paired with limited resources available for manpower development pose a significant threat to the sector. Investment is needed in this sector to truly modernise it.

Packaging

- Packaging sector has been growing at a faster rate than the rest of the sub-sectors in the logistics market.
- Increase in retail and other allied services has meant an immediate need to not only modernise the workforce, but also train and up skill them.
- Specialised talent in the form of engineers that have undergone training in the latest technological changes is the need of the hour, where there is a huge requirement for the reduction of costs.

Courier services

- The express and courier service in India has been growing at a rapid pace and will outperform the other sub-sectors.
- There are large requirements for employable manpower in this sector throughout, all levels of the organisation.
- Lower levels do not pose any significant problems towards attracting the right skill sets
- The mid-level and higher levels of typical organisations, on the other hand require immediate staffing of graduate students.

Warehousing

- The warehousing sector employs people of differing backgrounds, from blue collared workers, data entry personnel to supply chain experts.
- Lower levels of the organisation face high attrition due to the absence of formal contracts though this problem is offset by plenty of cheap and available labour.
- Higher levels of operation require well-trained supply chain professionals. Individuals with supply chain degrees are the need of the hour as attrition exists in this level due to the stagnant growth in the recent past.
- The infrastructure in place is outdated and backward in nature. Invigorating youth with fresh ideas is required in the industry to revolutionise the sector.

Source: KPMG in India analysis

Incremental human resource requirements (2013-17, 2017-22) and skill gaps

Employment clusters

Employment clusters identified from current sector level skill gap study*



***Existing employment clusters identified based on NSSO 68th Round (2011–12) and NSSO 67th Round (2010–11) employment-unemployment surveys*

- The study of employment clusters indicates the emergence of focus geographies for skill development, such as Bangalore.
- While the overall industry does not have clearly defined clusters, sub-sectors, such as warehousing and logistics, have focused clusters around metro regions.
- The districts with maximum employment in the transportation and logistics sector as identified by the NSSO 68th Round Survey are Mumbai, Kolkata, Hyderabad, Delhi and Ahmedabad
- The high growth clusters as identified by NSDC skill gap studies are Mumbai, Kolkata, Hyderabad, Ahmedabad and Bangalore, Surat and Indore.

Incremental human resource requirements (2013-17, 2017-22) and skill gaps

Employment figures across sub-sectors

	Employment (in Million)			Employment growth 2013–17	Employment growth 2017–22
	2013	2017	2022	(In million)	(In million)
Courier services	0.23	0.30	0.36	0.07	0.06
Packaging	0.22	0.26	0.30	0.04	0.04
Passenger railways	0.83	1.11	1.35	0.28	0.24
Passenger transport roadways	9.10	12.59	15.60	3.49	3.01
Rail freight	0.13	0.18	0.22	0.05	0.04
Road freight	5.79	7.99	9.88	2.20	1.90
Warehousing	0.43	0.57	0.69	0.14	0.12
Total	16.74	23.00	28.40	6.26	5.41

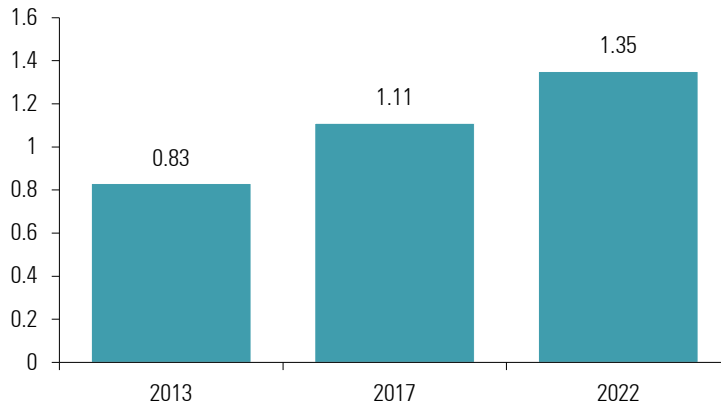
- The sector currently employs over 16.74 million employees and is slated to employ more than 28.4 million employees by 2022. This implies additional creation of ~11.7 million jobs in the nine-year period.
- The period 2013–17 will see a marginally higher growth in employment vis-a-vis 2017–22 due to expected increase in level of automation in logistics and warehousing operations leading higher productivity levels of workforce.
- The Indian transportation and storage sector is highly unorganised, with about 89 percent share in the workforce employed in road transport segment India.

Incremental human resource requirements (2013-17, 2017-22) and skill gaps

Workforce requirement across sub-sectors

Passenger train

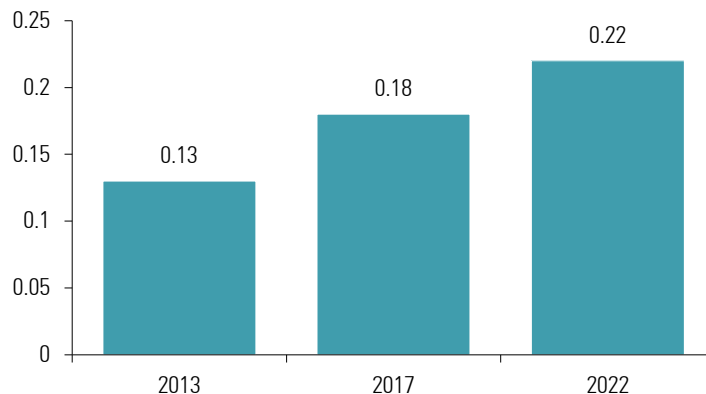
Workforce Required - Million



- Indian railways is one of the world's largest employers. The railways play a leading role in carrying passengers across the length and breadth of the country
- The rail segment has been prominently inducting workforce, which is a more organised growth
- Quality of service needs to be improved markedly and this can be done through the skilling/up skilling of the new recruits and keeping abreast of technological changes

Rail Freight

Workforce Required - Million



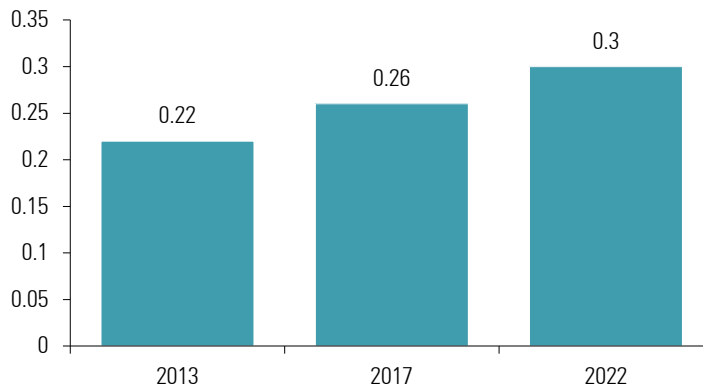
- Rail freight has grown at around 7 percent over the past five years and will continue to increase in the coming years with an increasing need for employable workforce.
- 31 percent share of total freight movement across all modes of transport are transported through rail yet constraints do exist requiring capacity enhancement plans.
- Though the roadways have increased the demand for transporting shipments, it is one of the fastest and most economical modes of transport.

Incremental human resource requirements (2013-17, 2017-22) and skill gaps

Workforce requirement across sub-sectors

Packaging

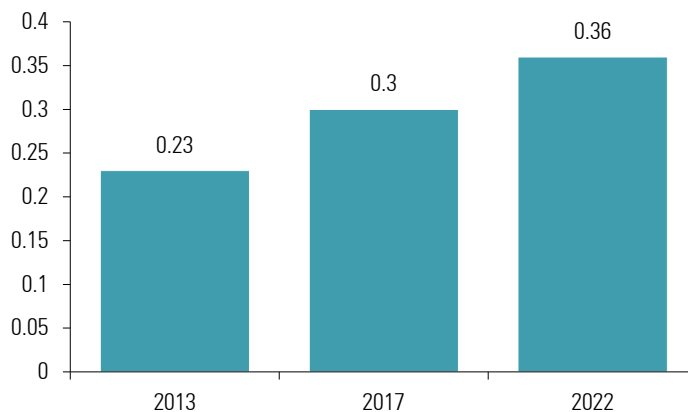
Workforce Required - Million



- Annual turnover of the Indian packaging industry is around USD 24 billion and this figure should rise in the coming years.
- There are about 22,000 companies requiring packaging professionals. The packaging education hence, needs to be more specialised and engineering oriented.
- The increase in population of the middle-class creates an immediate, direct and indirect need for more packaging professionals.

Courier services

Workforce Required - Million



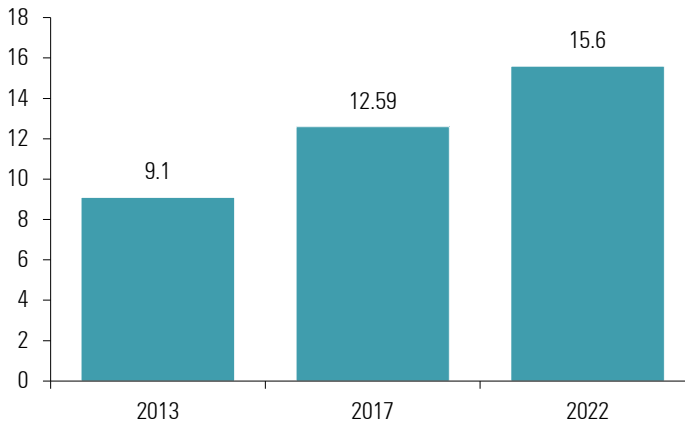
- The overall share of organised players is set to increase in the coming years on the account of the increasing penetration of the banking, insurance, retail and telecom sectors.
- The industry is highly fragmented with more than 2500 express players and a few large-sized players account more than half of the industry revenues.
- Rising fuel prices coupled with high levels of attrition in the workforce are a few of the challenges that need to be triumphed over.

Incremental human resource requirements (2013-17, 2017-22) and skill gaps

Workforce requirement across sub-sectors

Road — passenger

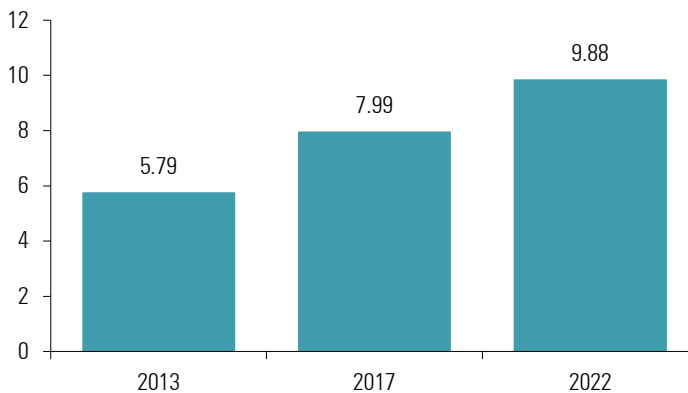
Workforce required - Million



- NHDP reports that approximately 40 percent of passenger traffic are through roads and highways. This large number indicates that a stable and abled workforce is required to service the sector.
- NHDP reports that 65 percent of freight is carried by road and this number is likely to rise in the future with the necessity to reduce transit and shipping times, for which an able and effective workforce is required.
- Poor state of road infrastructure requires rapid modernisation. This can only be done through the employment of individuals all across the country.
- Sluggish industrial output has meant lesser goods to haul and static freight rates for the logistic firms affecting smaller players.
- Truck operators, especially small fleet owners (with six to 20 trucks), make up a major portion of the market and are expected require manpower as the sector grows and consolidates.

Road — freight

Workforce required - Million

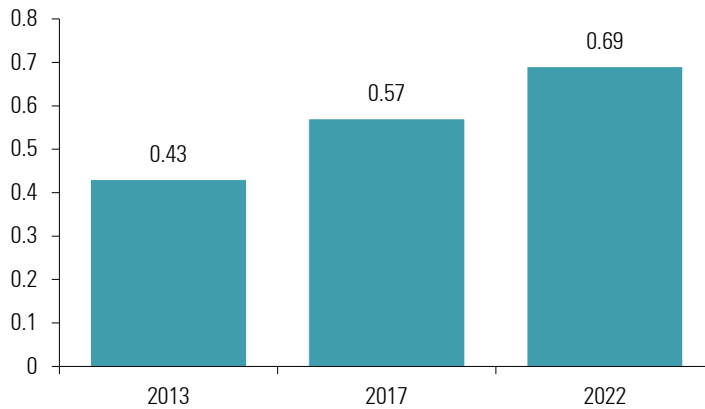


Incremental human resource requirements (2013-17, 2017-22) and skill gaps

Workforce requirement across sub-sectors

Warehousing

Workforce required - Million



- Huge chunk of the workforce is unorganised as the industry is highly fragmented
- Competition in organised retail and e-commerce websites centres around the speed at which a product ordered is delivered to the buyer leading to a need for readymade, skilled workforce.
- Better working conditions and career paths are long-term challenges that need to be solved.

Incremental human resource requirements (2013-17, 2017-22) and skill gaps

Skill set requirement across levels

Changing environment has resulted in significant skill gaps across the workforce levels		
	Common skills required	Common skill gaps
<p>Entry-level — (Truck/bus drivers, fork lift operators, commercial vehicle drivers, warehouse supervisor, logistics administrator, logistic coordinator, freight forwarding clerk, invoicing clerk, courier sorter and warehouse picker)</p>	<ul style="list-style-type: none"> ▪ Reading ▪ Understanding the technology ▪ Good knowledge of regulations relating to driving, operation, relevant documentation and licenses ▪ Technical competencies, safety practices, sanitation and hygienic requirements ▪ Communication skills 	<ul style="list-style-type: none"> ▪ Gaps in core technical skills ▪ Knowledge of associated issues — VAT, loading supervisory skills etc. ▪ Sanitation and hygienic issues due to inadequate knowledge about the health issues
<p>Middle-level (Inventory controller, transport scheduler, import / export officer, shift supervisor, logistic supervisor, warehouse supervisor, IT Officer)</p>	<ul style="list-style-type: none"> ▪ Knowledge on transformation from analogue to digital business model —services in digital communications and analytic capabilities ▪ IT/Data and analytic skills ▪ Communication skills ▪ Domain Skills ▪ Interpersonal Skills ▪ Leadership Skills ▪ Non-technical 	<ul style="list-style-type: none"> ▪ Gaps in leadership/supervision skills leading to efficiency and monitoring issues ▪ Gaps in good basic management practices — not attractive for professionals; basic in-house experience-driven skills with no formal infrastructure to impart skills; lack of specialised knowledge of best warehousing practices ▪ Progression issues 'inability to move to the next level' compounded by poor attraction of sector for professionals ▪ Lack of institutionalised training and shortfall of literate employees
<p>Top-Level (Warehouse manager, operations manager, purchasing manager, supply chain manager, inventory analyst, contract manager, import/export manager)</p>	<ul style="list-style-type: none"> ▪ Technical Skills ▪ Non-Technical Skills ▪ Communication Skills ▪ Understanding the technology and adaptation to newer technologies ▪ Identifying newer techniques ▪ Analytical skills ▪ Managerial skills ▪ Interpersonal skills ▪ Leadership skills ▪ Domain skills 	<ul style="list-style-type: none"> ▪ IT skills, data and analytic skills for systems and solutions that are both digital and physical ▪ Ability to work with both the mechanical and digital aspects of complex integrated products and services — both in the servicing them and in the development of new solutions ▪ Lack of leadership ▪ Small-time entrepreneurs with limited vision, intent and capability to scale and build manpower capabilities

Sources: KPMG in India analysis as on 16 March 2014

Incremental human resource requirements (2013-17, 2017-22) and skill gaps

Mapping job roles across sub-sectors

Understanding the critical job roles in various sub-sectors

Sub-sectors	Critical job roles	Key skill requirement
Road transportation	Entry-level/ Experienced (Drivers / Commercial Vehicle drivers)	<ul style="list-style-type: none"> Core driving skills, recognition of driving practices specific to cargo carried, tonnage of truck Knowledge of routes, geography Knowledge of road safety practices Knowledge of traffic and permit rules, taxation rules relevant to border check posts (octroi, VAT) Ability to coordinate with pickup/delivery site representatives Ability to interact with authorities Knowledge of sanitation and hygiene Illiterate to graduate education levels
Warehousing/ Logistics	Entry-level (Forklift operator)	<ul style="list-style-type: none"> Operating controls and switches of the forklift properly Understanding of basic physics and mechanics involved in using the forklift Knowledge of road signs, factory signs and other safety and emergency signals Understanding of logistics management concepts, such as First-In-First-Out (FIFO) and Kanban Safety regulations while operating the forklift and response to emergencies e.g., fire
Warehousing/ Logistics	Entry-level (Warehouse picker)	<ul style="list-style-type: none"> Understanding of the various types of goods being put-away or binned and handled Knowledge on various kinds of packing for items according to their type Application of various put-away/binning techniques that can be used according to the types of items and volume of items Usage of stock recording methods/procedures Handling of the different equipment for putting away or binning goods, such as picking trolley, hand pallet trucks
Warehousing/ Logistics	Entry-level (Courier sorter)	<ul style="list-style-type: none"> Know-how of the critical elements of each step in the courier process from pick-up to delivery Awareness of the nature, value and time-based sensitivities of the mail items handled Implications of poorly sorted items/slow rate of sorting Importance of identifying possible errors that can be made in the process Risk and impact of not following defined procedures/work instructions

Source: KPMG in India analysis

Incremental human resource requirements (2013-17, 2017-22) and skill gaps

Mapping job roles across sub-sectors

Understanding the critical job roles in various sub-sectors of the transport and storage sector		
Sub-sectors	Critical job roles	Key skill requirement
Road/Railways/ Warehousing/ Packaging	Mid-level (Supervisors)	Supervisors <ul style="list-style-type: none"> Ensure efficient arrangement of goods in the vehicle, quick turn around of vehicles Ensure safety of the goods that are loaded/transported This role is inexistent in most small logistics companies in the unorganised sector. Organised sector, the labour pool is often semi-illiterate.
Road/Railways/ Warehousing/ Packaging	Top-Level (Managers — EXIM, Admin, HR, accounts, transport management, six sigma/lean management, key account manager)	Managerial Level <ul style="list-style-type: none"> Possess strong operational and managerial skills They manage teams of workers and deal with personnel issues, such as the recruitment, training and discipline. They ensure that workplace health and safety requirements and productivity targets are met and maintain computerised administration and automated systems. Skills relating to familiarity with various transport formats and intricacies, warehouse formats, modern equipments, new technologies and industry specific safety and security practices Skills relating to customer relationship and managing the accounts handled by them. Skills relating to marketing and understanding the market requirements with innovations in selling techniques and
Warehousing	Top-level (Warehouse managers)	Warehouse Managers <ul style="list-style-type: none"> Possess strong operational and managerial skills Warehouse managers ensure the safe receipt, storage, retrieval and timely dispatch of goods Responsible for the arrangement, storage standards and safety of goods within the warehouse. They manage teams of workers and deal with personnel issues, such as the recruitment, training and discipline. They ensure that workplace health and safety requirements and productivity targets are met and maintain computerized administration and automated storage and retrieval systems. Some additional responsibilities may include managers to oversee picking, packing and distribution activity. Skills relating to familiarity with warehouse formats, modern equipments, new technologies and industry specific safety and security practices

Source: KPMG in India analysis

Select key job roles

Segment	Job roles
Material handling operations	<ul style="list-style-type: none"> ▪ Forklift operator ▪ Advanced forklift operator ▪ Stacker ▪ Tow motor operator ▪ Mechanical trolley operator ▪ OH crane operator ▪ Storage operator
Truck operations	<ul style="list-style-type: none"> ▪ Driver ▪ Container truck driver ▪ OCD truck driver ▪ High terrain driver ▪ Long haulage truck driver ▪ Maintenance operator ▪ Loader ▪ Un-loader
Warehouse operations	<ul style="list-style-type: none"> ▪ Gate operator ▪ Receiving-data entry operator ▪ Store keeper ▪ Picker ▪ Packer ▪ Inventory supervisor ▪ Truck scheduler ▪ Order fulfillment operator ▪ Store supervisor
Crane/heavy equipment operations	<ul style="list-style-type: none"> ▪ Rubber tyre gantry crane operator ▪ Rail mounted gantry crane operator ▪ Pedestral crane operator ▪ Straddle crane operator ▪ Single grider EOT operator ▪ Double grider EOT operator ▪ Material lifting operator ▪ Hydraulic floor operator ▪ Side lift operator ▪ Quay crane operator ▪ Supervisor

Incremental human resource requirements (2013-17, 2017-22) and skill gaps

Select key job roles

Segment	Job roles
Containr stuffing /De-stuffing	<ul style="list-style-type: none"> ▪ Container operator ▪ Container inspector ▪ Container allocation officer ▪ Loader/Un-loader ▪ Container supervisor ▪ Technology supervisor
Port operations/CFS	<ul style="list-style-type: none"> ▪ Port operator/worker ▪ Data entry operator ▪ Container stacker ▪ Loader/un-loader ▪ Port material handling operator ▪ Oder fulfilment supervisor
Packing	<ul style="list-style-type: none"> ▪ Strapping machine operator ▪ Packer ▪ Labelling operator ▪ Packing equipment operator ▪ Palletising operator ▪ Packing supervisor
Technology	<ul style="list-style-type: none"> ▪ Technology officer ▪ System analyst ▪ WMS data entry operator ▪ IT operator (e-transaction, route optimiser) ▪ System operator (GPS operator, RFID, voice interactive system operator) ▪ Bar coding machine operator

Training infrastructure

Name	Locations
Indian Institute of Management (IIMs)	Various
CII — Institute of Logistics	Chennai and in various places
National Institute of Logistics and Material Management, Udaipur (Rajasthan)	Udaipur
Indian Institute of Materials Management, Chennai (Tamil Nadu)	Chennai
Karunya School of Business, Leadership and Management, Coimbatore (Tamil Nadu)	Coimbatore
St. Xaviers College (SXC), Kolkata (West Bengal)	Kolkata
Institute of Logistics and Aviation Management (ILAM), Mumbai (Maharashtra)	Mumbai
Institute of Logistics and Aviation Management (ILAM), Bangalore (Karnataka)	Bengaluru
Southern Academy of Maritime Studies, Thiruvallur (Tamil Nadu)	
Global School of Foreign Trade, Madurai (Tamil Nadu)	Madurai
Guiders Academy, Kochi (Kerala)	Kochi
Indian Institute of Logistics, Kochi (Kerala)	Kochi
Ashok Leyland — DTIs	Namakkal, Burari, Chhindwara, Kaithal, Bhubaneswar
Tata Driving School	Various
Volvo truck training	Bengaluru
CRISIL	Various

- Institutes offer a wide variety of courses, which includes undergraduate, postgraduate, diploma and certificate courses in areas, such as supply chain management, warehousing and transportation.
- Innovative training techniques and methods should be thought off to better manage and up skill the manpower to meet the changing needs of the industry.
- Specialised training institutes that cater to the needs of the industry should be developed and focussed on skilling of manpower.
- Technical courses for packaging and the new development technologies should be addressed with the combined efforts with the industry.
- Though few industries have come in to cater to the key requirements in the road segment, some segments — warehousing, supply chain and packaging — have not been specialised.

Recommendations for stakeholders

Consolidation, integration and organisation of the industry is key to its growth

Acceleration of the drivers of consolidation, integration and organisation in the industry

- Industry is largely fragmented leading to small entrepreneurs holding a major share in the industry.
- The small scale and unorganised nature of the industry in the road segment for example, has led to a situation where small entrepreneurs neither have the capacity nor the inclination to invest in human resource development.
- Pay scales in the segment have also not been very attractive resulting in a situation where the segment has become more or less the last resort for any serious career seeker.

Recommendation 1: Consolidation, integration and organisation of industry

- Though certain large players have gone in for consolidation by taking over smaller players, it becomes of prime importance for the industry to move from unorganised to organised.
- Initiatives by the government for continued liberalisation of foreign investment will enable MNCs establish larger scale and best practice-driven outsourced logistics.
- The development of robust clearing mechanisms will help the industry.

Development of processes and systems to enable better controls in the organisation

- Concerns have been arisen from the industry for leveraging technologies and development of systems and processes in providing a value-added supply chain solution.
- Supply chain visibility remains a top operational priority for large customers. Customers generally struggle to achieve a unified picture of their supply chains because of the legacy information systems designed to operate within a single company, not across a network of companies. Thus, the ability to share real-time information with key customers, suppliers and partners has become critical in the freight forwarding industry.

Recommendation 2: Customisation and development of processes and systems

- A successful supply chain shares data between multiple parties — manufacturers, customs departments, logistics providers and retailers.
- Industry should take initiatives in the development of processes and systems to basically control costs, streamline the existing processes to ensure efficient flow of operations and monitoring of process.
- The high performers have moved well beyond using IT merely as an enabler of internal process management. Instead, they leverage their proprietary customer-facing technologies to empower their customers. The ability to develop more 'intelligent' services, more dynamic planning and increased alignment with customers' operations and processes will be important to the ongoing success.

Undertaking of initiatives to make the industry lucrative

- Insufficient provision of manpower to the sector, key reason being the poor image and consequent lack of attractiveness for the new career seekers.
- The small scale and unorganised nature of the industry in the road segment, for example, has led to a situation where small entrepreneurs neither have the capacity nor the inclination to invest in human resource development.
- Pay scales in the segment have also not been very attractive resulting in a situation where the segment has almost become the last resort for a serious career seeker.
- Similarly, at the middle and senior management levels, the small scale and strongly centrally (family) controlled nature of businesses has led to a situation where professionals prefer not to join the segment fearing the lack of independence and flexibility with almost no chance of reaching the top position.
- Another case in point is the freight forwarding industry in India this segment in India has until recently been dominated by global companies whose Indian presence was largely on a nominative basis.
- Lack of practical training, practical knowledge at several business schools offering executive development programmes, which impart solely theoretical knowledge; but largely lack practical skills. Few formal training institutions for driver training (exceptions being the likes of Ashok Leyland, Tata Motors, Shree Ram Finance company who have either set up driving schools or have in-housing training) and for logistics players, such as like Gati and TCI. But there has been practically none for operational training on associated areas — like loading/unloading supervisory, proper handling practices etc.

Recommendation 3: Initiatives to make the Industry lucrative to attract more manpower

- Greater investment is required from industry players in employee welfare and ensuring the basic safety systems are in place.
- Unethical practices need to be controlled through disincentivisation of cash transactions.
- A closer look at pay and progression policies is also warranted given that the growth and profitability outlook for the industry is positive, sharing the benefits of growth with employees would be important.
- While implementing these improvement initiatives is critical, it is equally important to communicate improvements to the target group of recruits. This exercise can be effectively carried out by industry associations in respective segments in association with external advertising agencies.
- Formulate policies to encourage training spend by the companies. Create directions to improve work conditions in the sector.
- Define a timeline to make certification-based training mandatory for critical positions.
- Define methodologies for upgrading the manpower .
- Students should be imparted more hands-on training for practical insights.

Development of adequate infrastructure for enabling the growth of the Industry

- The logistics sector is a high investment sector with geographical differences in regulations causing a barrier for the private players to enter the industry.
- No PPP initiative taken by the government.

Recommendation 4: Government initiatives to develop infrastructure for the growth of the industry

- Development of enabling infrastructure will create the base for achievement of greater scale efficiencies.
- Encouragement of public private partnerships will ensure a faster pace of enabling infrastructure development.
- Rationalisation of distorting regulations/policy framework for example, rationalisation of indirect tax regime will necessitate building larger warehouses and enable achievement of scale economies.



सत्यमेव जयते

GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP



N · S · D · C

National
Skill Development
Corporation

Transforming the skill landscape

National Skill Development Corporation
Block A, Clarion Collection, (Qutab Hotel)
Shaheed Jeet Singh Marg, New Delhi 110 016
Tel: +91-11-47451600, Fax: +91-11-46560417
Email: skillgapstudies@nsdcindia.org
Web: www.nsdcindia.org