

EXECUTIVE SUMMARY

Double Digit Growth in Container Traffic, a Fast Expanding Liner Service Network and Huge Demand for Container Handling Capacity

- S. Hajara, CMD (SCI)

- India is the seventh largest and second most populous country in the world. The ambitious economic reforms initiated by the Government during early 1990s aimed at deregulating the country's economy and stimulating foreign investment and has moved India firmly into the front ranks of the rapidly growing Asia Pacific region. The real GDP growth in Indian since 1997 has averaged at about 6% per annum. Over the period 1991 to 2005, the import and export have grown at average rates of 8.8% and 9.27% respectively in terms of value. The turn of the century has witnessed rapid growth in the Country's merchandise trade as imports and exports have risen at a much rapid rates of 21% and 16% respectively over the past five years.
- During the year 2005-06, the value of India's exim trade was US\$ 236 billion. India is a maritime country with approximately 95% of India's international trade by volume and 70% by value being seaborne. India has 12 major and 185 minor/ intermediate ports along the 7517 km coastline. Coastal shipping caters to domestic trade. The maritime sector has a multiplier effect on the economy & creates employment.
- Due to the continued liberalization and increasing globalization of the Indian economy, India's overseas trade has been growing at a rapid pace. The general cargo (liner) trade is an important part of the India's overall overseas trade constituting about 18-20% of the total seaborne trade by volume, which would be much higher in terms of value. At the present stage of economic development, India's liner trade will certainly be a high growth area as there will be increased trade of semi-finished, finished goods and value-added products. Furthermore, India's potential to become a manufacturing hub, augurs well for the liner trade of the Country. The Government has targeted doubling Indian Share in world export by 2009 from the current 0.8%
- Containerisation of general cargo in India began in 1970s as against its advent in 1960s in developed countries and gained momentum in 1980s. The level of containerisation in India is still at a level of 45-48% in India compared to 65-75% in the developed countries. India has kept pace with the growth of container trade world over during the last decade; as a matter of fact container traffic at Indian ports has increased at a rate higher than the world average. There has been impressive growth of container traffic of 14.2% per annum during the five years ending in 200-05.
- Amongst the Indian ports, JN Port is by far the largest, handling about 55% of the container traffic at the Major Indian ports. JNP ranks 32nd amongst world's top 100 container terminals and during 2004-05, handled 2.37 million TEUs, which is roughly 10-11% of the traffic handled by Hang Kong port.

- World over the container trade is evolving as the shipping lines foresee the requirement of the trade and acquire suitable tonnage. The average ship size in 1980 was 975 TEUs and the largest ship was 3,057 TEUs. In the year 2006, the average size of a fully cellular container carrier is 2,218 TEUs and the largest size is about 9,200 TEUs and still increasing. The draft requirement has also changed accordingly. The most noticeable feature of this new generation ships is their speed. Thus, there has been a phenomenal rise in ship size and speed to feed the hub-spoke system. Thus, the lines are not only trying to meet the trade requirement for Just-In-Time deliveries, but are also trying to achieve economies of scale to be competitive.
- India still lacks deep draft in many of its ports. Today Mundra Port is the only port having a draft required to handle the containership behemoths (10,000 – 12,000 TEU ships) that are being delivered from the leading shipbuilding yards of the world. In the global container ship orderbook, compared to the growth of 7.18% CARG during 2006 – 2010 of the Sub-Panamax Fleet (< 4,000 TEU), the Post-Panamax Fleet (> 4,000 TEU) is expected to grow at a CARG of 17.24%. In this context, it is worthwhile to note that Hyundai Heavy Industries and Germanischer Lloyd have unveiled a design for a 13,000 TEU ship powered with 2 main engines and 2 propellers which is 382 m long, 54.2 m wide and having 13.5 m draft. In the future, we could probably see the container ship size reaching its zenith viz. the Malacca-max – 18,154 TEU ship having dimensions of 400 m length, 60 m beam and 21 m draft.
- An analysis of the present fleet and order-book (in terms of no. of TEUs):

Size (TEU capacity)	Present fleet	Fleet on order
<500	11.7%	0.1%
500-1,499	33.1%	7.6%
1500-2499	19.7%	7.0%
2500-3999	15.7%	14.5%
4000-5999	14.1%	26.8%
6000-7999	3.5%	13.7%
8000+	2.1%	30.3%

As may be seen from the above that future newbuilding deliveries of container vessels would predominantly be in the bigger size ranges.

- Thus, the Indian economic growth and trade pattern indicate potential of double digit growth of the Indian container trade. The moot question is – are Indian ports ready to handle this changing trade pattern and match the efficiency parameters of the world ports? A look at the readiness of Indian ports shows that although there are success stories, the Indian ports as a collective sector has to improve on the parameters such as draft, Average Turnaround time, Average Pre-berthing Time, etc.
- In order to sustain the projected double digit growth in container traffic, apart from port development, the maritime industry also has to look at the other areas such as rapid and unhindered hinterland connectivity, improvement in

cold chain infrastructure, legislation in line with world practices in multimodal transportation, etc.

- The Government has placed greater emphasis on private sector participation to address the issue of infrastructure shortfall in port sector. The new projects would give the shippers and carriers more choice ushering in more competitive freight transport environment, which will in turn increase the transport efficiency and reduce the costs. The land based leg will be faster with widening of National & State Highways. Liberalisation of rail services and opening of container train business to private sector participation is a step towards further improving the transport infrastructure in the Country. Development of dedicated freight corridors is also being put on a fast track.
- To conclude, the projected double digit growth in the container traffic is definitely in the realm of reality as the entire transport infrastructure in the supply chain is gearing up to meet the challenge.

Double Digit Growth in Container Traffic at Indian Ports

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Broad Presentation Structure

- Indian Economy & Maritime Sector
- India's Liner Trade & Container Shipping
- Overview of the Port Infrastructure
- Conclusion

Indian Economy – A Growth Story

- India - seventh largest, second most populous country and world's 4th largest economy in terms of purchasing power parity .
- Ambitious economic reforms initiated in early 1990s moved India firmly into the front ranks of the rapidly growing Asia Pacific region.
- Average real GDP growth of about 6% per annum since 1997.
- Over the period 1991 to 2005, the import and export have grown at average rates of 8.8% and 9.27% respectively in terms of value.
- Imports and exports have risen at a much rapid rates of 21% and 16% respectively over the past five years.
- During the year 2005-06, the value of India's exim trade was US\$ 236 billion

India – A Maritime Country



- India is a maritime country with 12 Major and 185 Minor/Intermediate ports along its 7517 km coastline.
- Approximately 95% of India's international merchandise trade by volume and 70% by value is seaborne.
- Gross Value Addition from shipping industry per gross tonnage per year was Rs.2211.

India's Liner Trade

- About 18-20% of total seaborne trade by volume, but much higher in terms of value.
- CARG of Indian liner trade (container & break-bulk) over the past decade – about 14%.
- At the present stage of economic development, India's liner trade will certainly be a high growth area.
- Some key industries/ sectors expected to grow at very healthy rates.
- India's potential to become a manufacturing hub - augurs well for the liner trade of the Country.



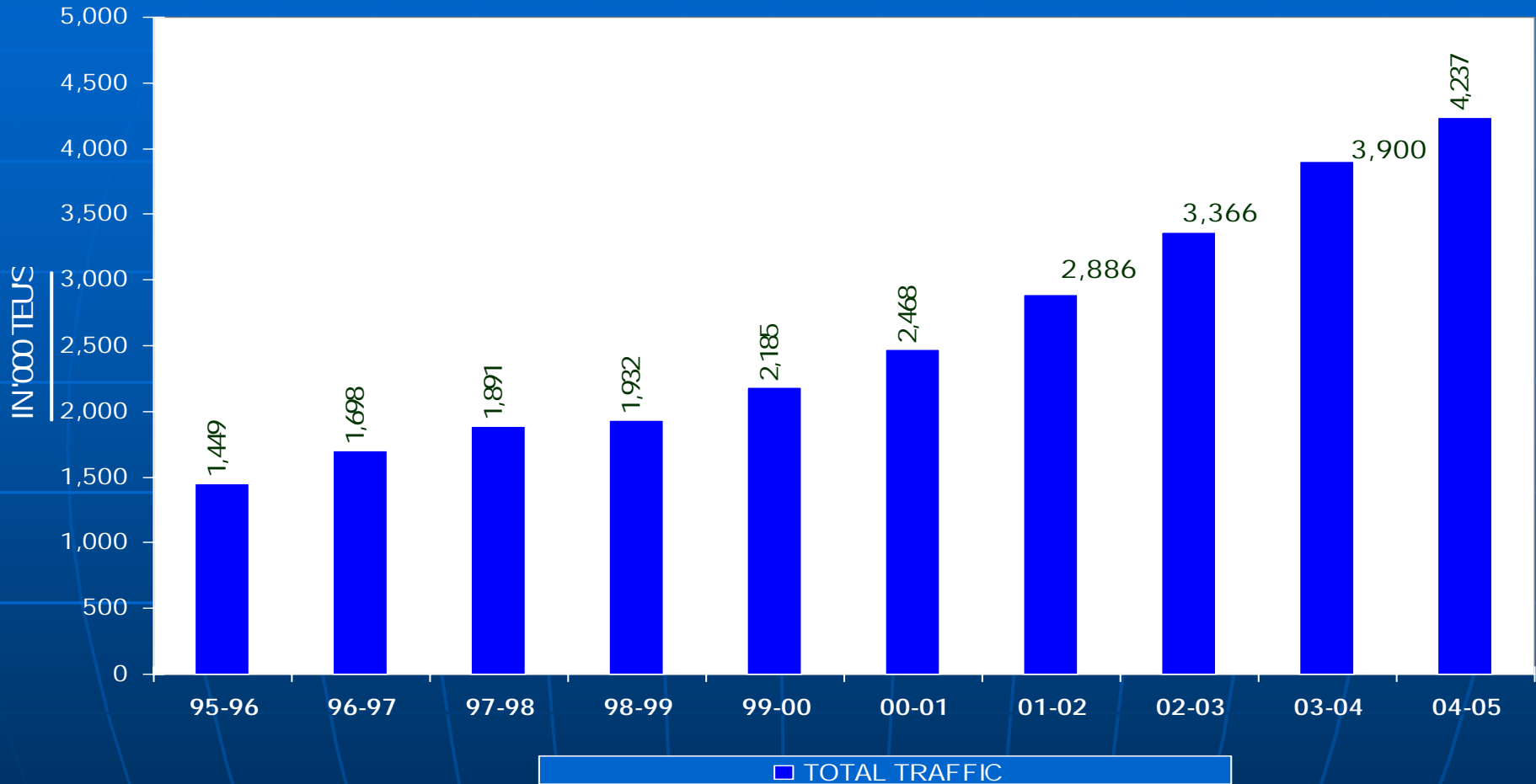
India's Liner Trade

- Export target in foreign trade policy 2004-2009: Double existing share in world trade by 2009. (About 1.5% share, export value around US\$ 195 bill.)



- Indian exports in global market - about 2% by volume & only 0.8% (us\$ 63 bill.) by value (2003-04).
- NMDP forecast: Container traffic to increase at 18.31% per annum over the decade 2003-04 to 2013-14 and Major ports to have 72% share.

Overview of Container Shipping in India



- Containerization started in 1970's as against its emergence in 1960s in developed countries & gained momentum 1980's.
- Low level of containerization in India - About 45-48% as compared to 65-75% in developed world.

Overview of Container Shipping in India

- India ranks 25th in 'Liner Shipping Connectivity Index' of UNCTAD behind Sri Lanka (index captures information re. fleet deployed, liner services, vessels size, etc.)
- India not in top 25 liner shipping routes in terms of total TEU capacity of the vessels deployed for direct shipping services.
- High level of transshipment of containers at nearby ports (Colombo, Singapore, Klang).

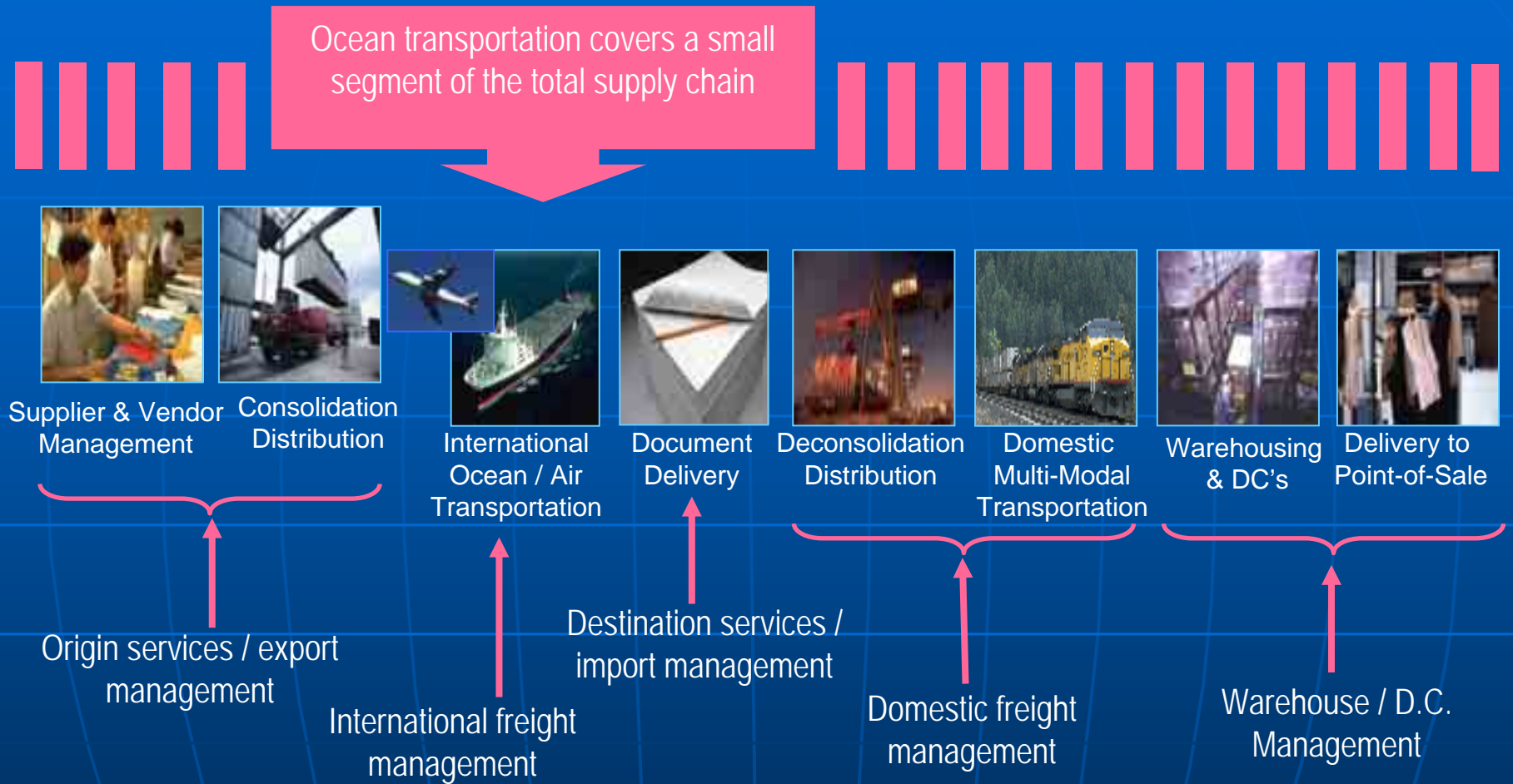


Overview of Container Shipping in India

- Presence of national lines is known to have a stabilising effect on freight rates.
- Presence of national lines not significant.
- SCI is the only Indian shipping line operating worldwide services (niche services to USA, Europe, Far East).



Global Snapshot - End-to-end Global Supply Chains



To efficiently manage diverse & increasing needs of customers, lines to evolve strategic clarity (focused business models), standardized business processes, yield / revenue management systems, strategic partnerships with top-tier customers & develop targeted products

A Global Snapshot – Evolution of Ship Sizes

Particulars	1980	2006
Average ship size (teu)	975	2,218
Largest ship in world fleet (teu)	3,057	9,200/ 9,449
Length of largest ship in fleet (m)	285	350
Beam of largest ship in fleet (m)	32	46
Max. Draft of largest ship in fleet (m)	13	15

- Largest container ship – Registered capacity 9,449 TEUs (UNCTAD)
- Design for 13,000 TEU ship with 2 main engines & 2 propellers. Concept envisages ship 382 m long, 54.2 m wide & draft of 13.5m.
- There has been a phenomenal rise in ship size and speed as the lines are not only trying to meet the trade requirement for Just-In-Time deliveries, but are also trying to achieve economies of scale to be competitive.
- 17 out of top 25 routes include vessels larger than 9000 TEU (UNCTAD).

Global Snapshot – World Fleet & Order-book

In terms of TEUs

Size (TEU capacity)	Present fleet	Fleet on order (as % of fleet on order)
<500	11.7%	0.1%
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- Future newbuilding deliveries of container vessels would predominantly be in the bigger size ranges.

Global Snapshot - Projected Growth Of Global Fleet, (Jan'2006)

FLEET AS ON	ADDITIONS		TOTAL		Y-O-Y GROWTH
	NOS.	TEU	NOS.	TEU	
01.01.2006	-	-	3,618	8,240,755	12.8%
01.01.2007	393	1,327,208	4,011	9,567,963	16.1%
01.01.2008	445	1,410,812	4,456	10,978,775	14.7%
01.01.2009	317	1,352,233	4,773	12,331,008	12.3%
01.01.2010	69	358,318	4,842	12,689,326	2.9%

A Look at India's Infrastructure – Major Ports

Capacity during 2001-02 to 2004-05

Year	2000-01	2001-02	2002-03	2003-04	2004-05
Tonnage (mt)	28.90	37.00	39.15	49.55	49.55
TEUs (in mil.)	2.41	3.08	3.26	4.13	4.13
No. of berths	25	26	28	27	27

- The capacity has increased by 93% from 2000-01 to 2004-05

A Look at India's Infrastructure – Major Ports

Proposed container capacity addition (As per NMDP)

	Capacity on 31.3.2005	Requirement by 2013-14	Additional capacity by 2013-14
Tonnage	49.55 mt	235.56 mt	186.01 mt
TEUs	4.13 mil	19.63 mil	15.50 mil

In order to maintain 30% additional capacity over the projected traffic of 15.1 million TEUs, the capacity addition required would be approximately 375%.

Indian Ports – State of Preparedness to Handle Large Vessels

East Coast Of India Ports

Physical Parameters

	Benchmark	Kolkata	Haldia	Paradip	Vizag	Ennore
Draft	15 M	X	X	X	X	X
MVS	355-360 M	√	√	√	√	√
HSE	50 Mvs/Hr/Crn	X	X	X	X	X

Efficiency Parameters

ATT	12 Hrs.	X	X	X	X	X
APT	2 – 3 Hrs.	X	X	√	√	X
APS	20 – 25,000 T	X	X	X	X	X

MVS – Maximum Vessel Size At Berth, HSE – High Speed Equipment, ATT – Average Turnaround Time, APT – Average Pre-berthing Time, APS – Average Parcel Size

Indian Ports – State of Preparedness to Handle Large Vessels

South Indian Ports						
Physical Parameters						
	Benchmark	Chennai	Tuticorin	Kochi	New M	M. Goa
Draft	15 M	X	X	X	X	X
MVS	355-360 M	√	X	√	X	X
HSE	50 Mvs/Hr/Crn	X	X	X	X	X
Efficiency Parameters						
ATT	12 Hrs.	X	X	X	X	X
APT	2 – 3 Hrs.	X	X	X	√	√
APS	20 – 25,000 T	X	X	X	X	X
MVS – Maximum Vessel Size At Berth, HSE – High Speed Equipment, ATT – Average Turnaround Time, APT – Average Pre-berthing Time, APS – Average Parcel Size						

Indian Ports – State of Preparedness to Handle Large Vessels

West Coast Of India Ports

Physical Parameters

	Benchmark	Mumbai	Jnpt	Kandla	Pipavav	Mundra
Draft	15 M	X	X	X	X	√
MVS	355-360 M	√	√	√	√	√
HSE	50 Mvs/Hr/Crn	X	X	X	X	X

Efficiency Parameters

ATT	12 Hrs.	X	X	X	X	X
APT	2 – 3 Hrs.	X	X	X	√	√
APS	20 – 25,000 T	X	X	X	X	X

MVS – Maximum Vessel Size At Berth, HSE – High Speed Equipment, ATT – Average Turnaround Time, APT – Average Pre-berthing Time, APS – Average Parcel Size

Indian Ports – State of Preparedness

Category	West Coast	South India	East Coast
A	JNPT	Kochi	Vizag
	Mundra	Ennore	
	Pipavav		
B	Kandla	Chennai	
	Hazira	Tuticorin	
	Mumbai		
C		New Mangalore	Kolkata
		Mormugao	Haldia
			Paradip

Source: CRISIL Infrastructure Advisory Study – Jan'2006

Cat A – Highest readiness level ; Cat C- lowest readiness level

Indian Containerized Trade – Related Developments

- NMDP also emphasises development of hinterland connectivity.
- Greater private sector participation to address infrastructure shortfalls in port sector - BOT, outright privatizations & JV's.
- International operators in many major port projects viz. DPW in Kochi & Vizag, PSA in Tuticorin, P&O & Maersk in JNPT
- New projects to give more choice & usher in a more competitive freight transport environment, delivering greater efficiency & increasing trading volumes

Indian Containerized Trade – Related Developments

- Connectivity enhancement through widening of National & State Highways.
- Entry of foreign private entities in trucking & warehousing.
- Liberalisation of rail services.
- Proposed development of dedicated freight corridors between Delhi & Kolkata and Delhi & Mumbai.

Double Digit Growth – A Reality

- Global containerised trade to grow at 6.5% during 2005-2011 and decadal growth of 120% in 2001 to 2011 (UNCTAD).
- NMDP projects a growth rate of 18.31% from 2003-04 to 2013-14 for container traffic at Indian ports.
- Under NMDP, Indian ports are gearing up to match the projected trade growth.
- Development of all the components of supply chain infrastructure to synchronise with trade growth.
- In short, double digit growth in container traffic at Indian ports is definitely in the realm of reality.

Thank You