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INDIAN CONTAINER MARKET REPORT 2018

BY

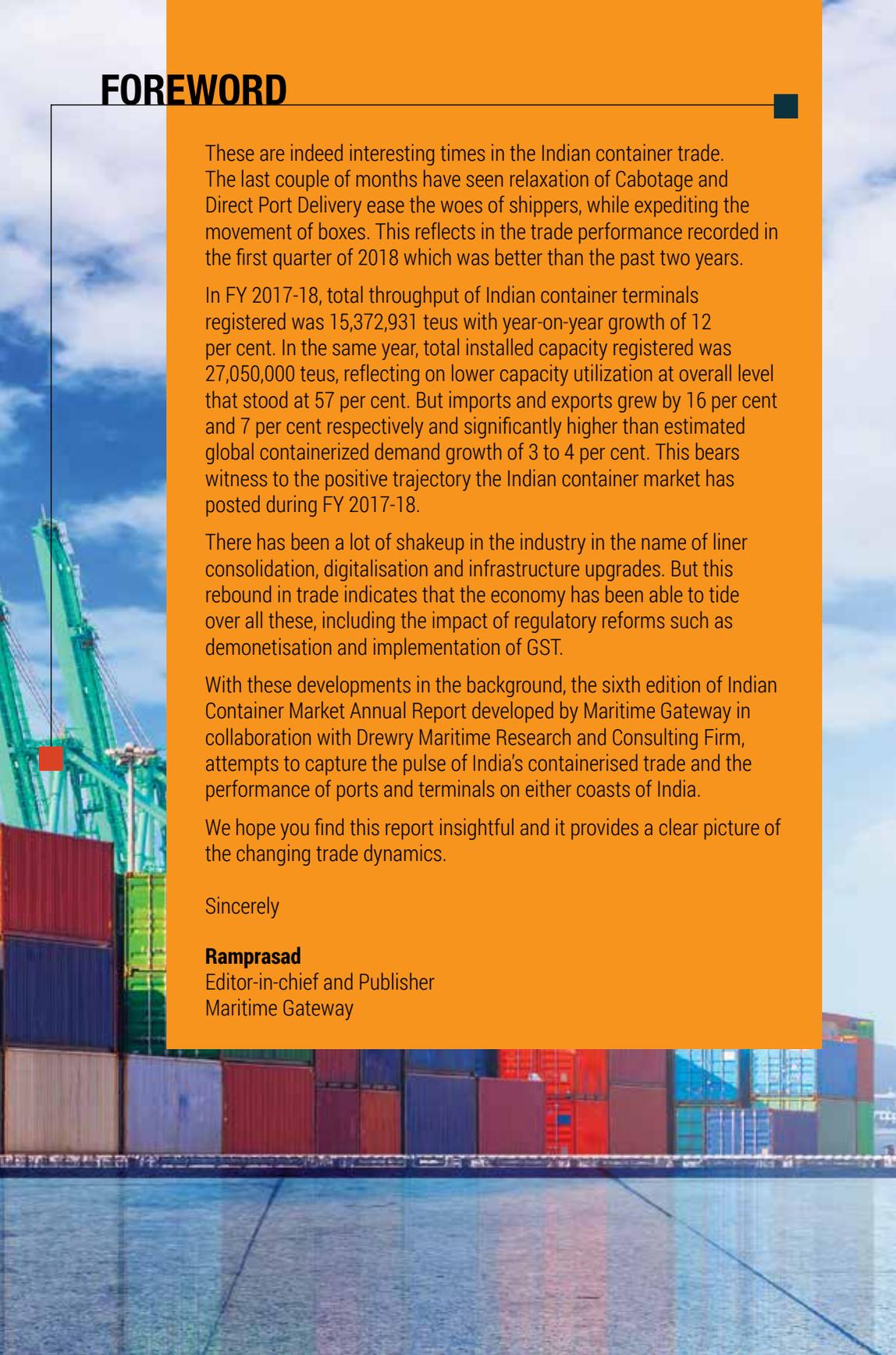
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FOREWORD



These are indeed interesting times in the Indian container trade. The last couple of months have seen relaxation of Cabotage and Direct Port Delivery ease the woes of shippers, while expediting the movement of boxes. This reflects in the trade performance recorded in the first quarter of 2018 which was better than the past two years.

In FY 2017-18, total throughput of Indian container terminals registered was 15,372,931 teus with year-on-year growth of 12 per cent. In the same year, total installed capacity registered was 27,050,000 teus, reflecting on lower capacity utilization at overall level that stood at 57 per cent. But imports and exports grew by 16 per cent and 7 per cent respectively and significantly higher than estimated global containerized demand growth of 3 to 4 per cent. This bears witness to the positive trajectory the Indian container market has posted during FY 2017-18.

There has been a lot of shakeup in the industry in the name of liner consolidation, digitalisation and infrastructure upgrades. But this rebound in trade indicates that the economy has been able to tide over all these, including the impact of regulatory reforms such as demonetisation and implementation of GST.

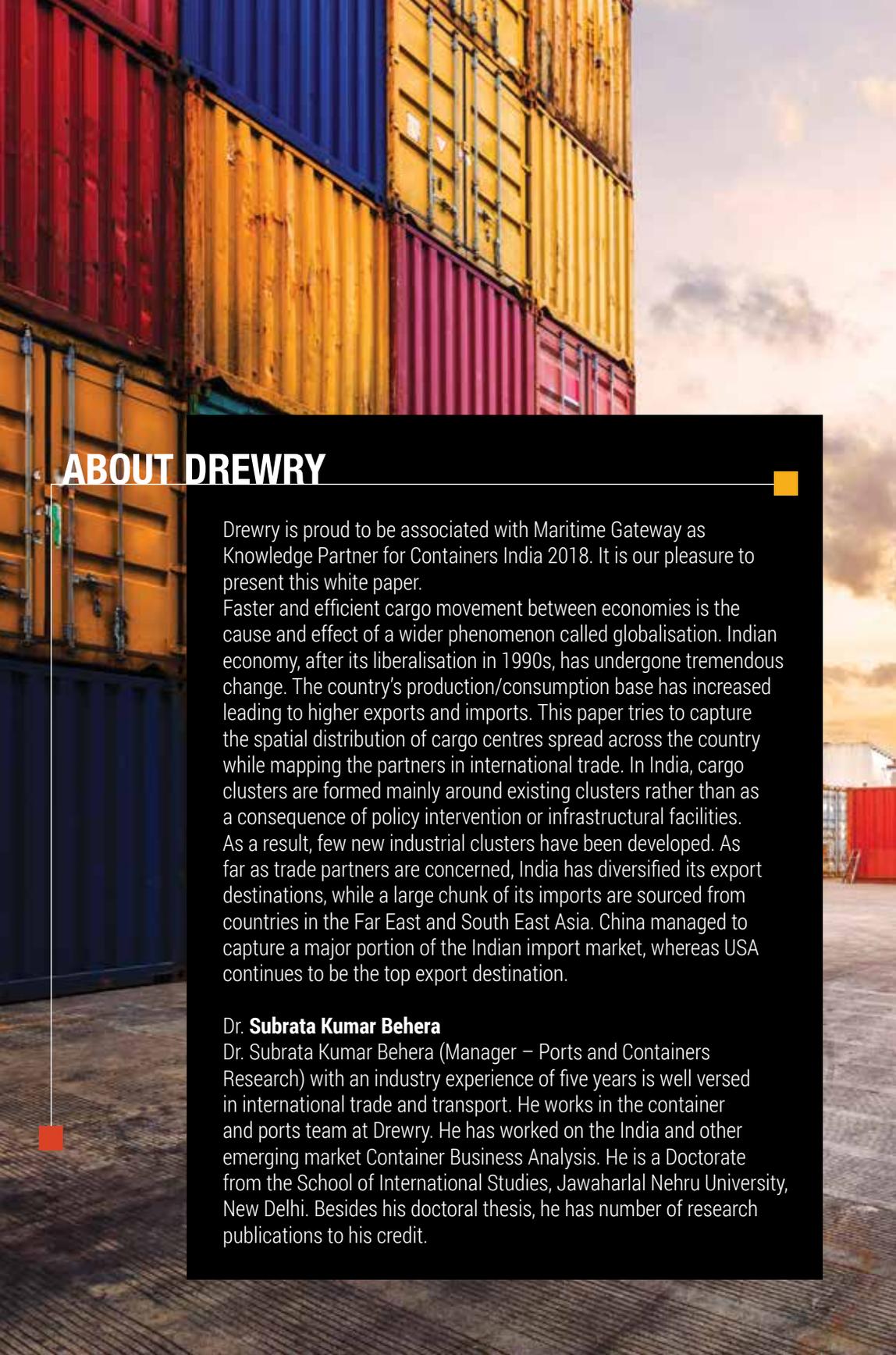
With these developments in the background, the sixth edition of Indian Container Market Annual Report developed by Maritime Gateway in collaboration with Drewry Maritime Research and Consulting Firm, attempts to capture the pulse of India's containerised trade and the performance of ports and terminals on either coasts of India.

We hope you find this report insightful and it provides a clear picture of the changing trade dynamics.

Sincerely

Ramprasad

Editor-in-chief and Publisher
Maritime Gateway



ABOUT DREWRY

Drewry is proud to be associated with Maritime Gateway as Knowledge Partner for Containers India 2018. It is our pleasure to present this white paper.

Faster and efficient cargo movement between economies is the cause and effect of a wider phenomenon called globalisation. Indian economy, after its liberalisation in 1990s, has undergone tremendous change. The country's production/consumption base has increased leading to higher exports and imports. This paper tries to capture the spatial distribution of cargo centres spread across the country while mapping the partners in international trade. In India, cargo clusters are formed mainly around existing clusters rather than as a consequence of policy intervention or infrastructural facilities. As a result, few new industrial clusters have been developed. As far as trade partners are concerned, India has diversified its export destinations, while a large chunk of its imports are sourced from countries in the Far East and South East Asia. China managed to capture a major portion of the Indian import market, whereas USA continues to be the top export destination.

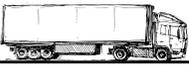
Dr. **Subrata Kumar Behera**

Dr. Subrata Kumar Behera (Manager – Ports and Containers Research) with an industry experience of five years is well versed in international trade and transport. He works in the container and ports team at Drewry. He has worked on the India and other emerging market Container Business Analysis. He is a Doctorate from the School of International Studies, Jawaharlal Nehru University, New Delhi. Besides his doctoral thesis, he has number of research publications to his credit.



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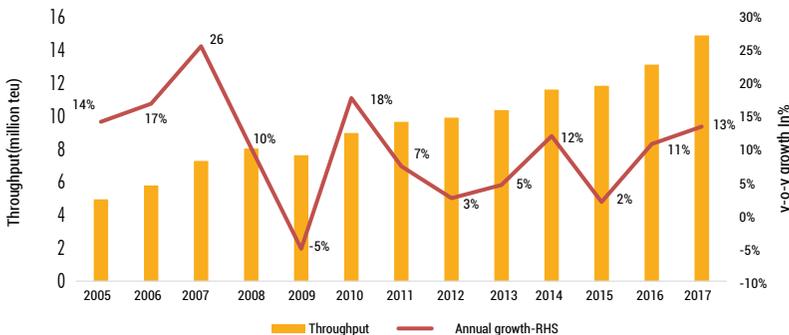


INDIAN CONTAINER MARKET OVERVIEW

India edged past France and became the sixth-largest economy in the world in 2018. Although the Indian economy decelerated in 2017 due to short-lived shocks like demonetisation and the implementation of the Goods and Services Tax (GST), it bounced on the back of strong fundamentals. Bilateral trade with China was at a historic high in 2017 despite many tensions between the countries.

India's container port traffic grew by 13% in 2017, following 11% growth in 2016. All Indian ports recorded positive growth during the year, barring one or two ports. Mundra's traffic grew by more than 20%, and JNPT's traffic inched up by 4.8% in 2017. On the east coast, Chennai increased its port throughput by 1.6%. Furthermore, Krishnapatnam - a new port - has been growing at a fast pace.

Figure 1: Development of container traffic in India



Source: Drewry maritime Research

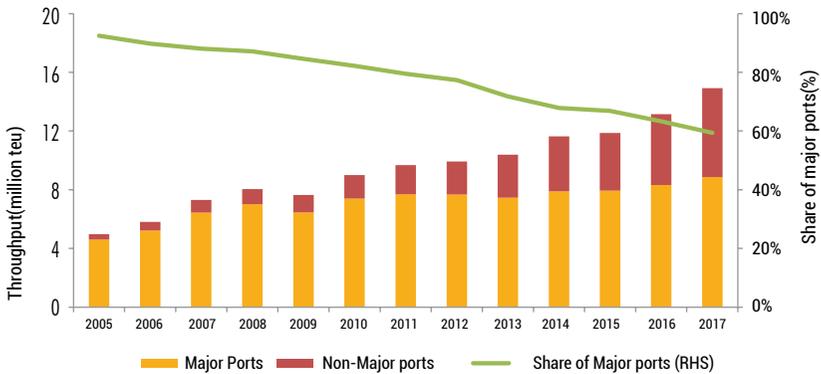


Market Segmentation 2018

Major vs Non-major ports

Major ports have lost a significant share of container traffic to non-major ports during the last decade. The market share of non-major ports has surged by more than five times in the previous 13 years from 2005. The market share of terminals (in terms of traffic) operating in major ports plummeted from 92% in 2005 to 59% in 2017. The rapid expansion of private terminal operators in non-major ports diverted a significant chunk of cargo to these private ports. The market share (in terms of container traffic) of non-major ports collectively rose to a whopping 41% in 2017 from a paltry 3% in 2005. Krishnapatnam and Katupalli on the east coast of India, operational since 2013, have amassed significant volume in four years. These ports have been adding to the growth story of non-major ports, previously driven by Mundra and Pipavav. In 2017, among non-major ports, only Pipavav has registered a 3% decline in container traffic. Neighbouring port Mundra handled 22.4% more boxes over 2016 and Hazira's container traffic increased by 27.6%

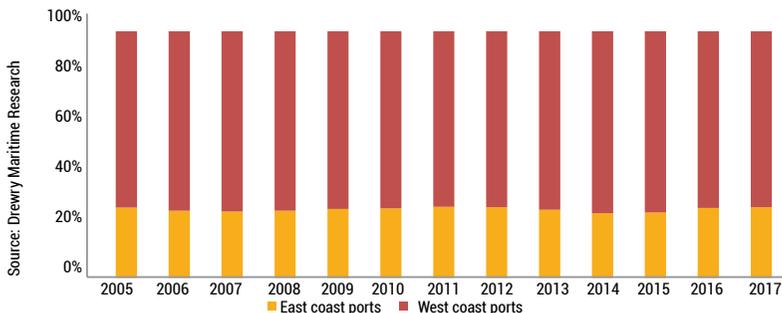
Figure 2: Rising share of non-major ports



East coast ports vs west coast ports

Ports on the west coast dominate the container infrastructure and throughput in India. More than 70% of the country's containers are handled at the west coast ports. We expect this dominance to continue, though handling at east coast ports has accelerated in recent years with new private ports.

Figure 3: Container handled at the west and the east coast ports



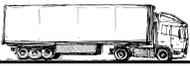
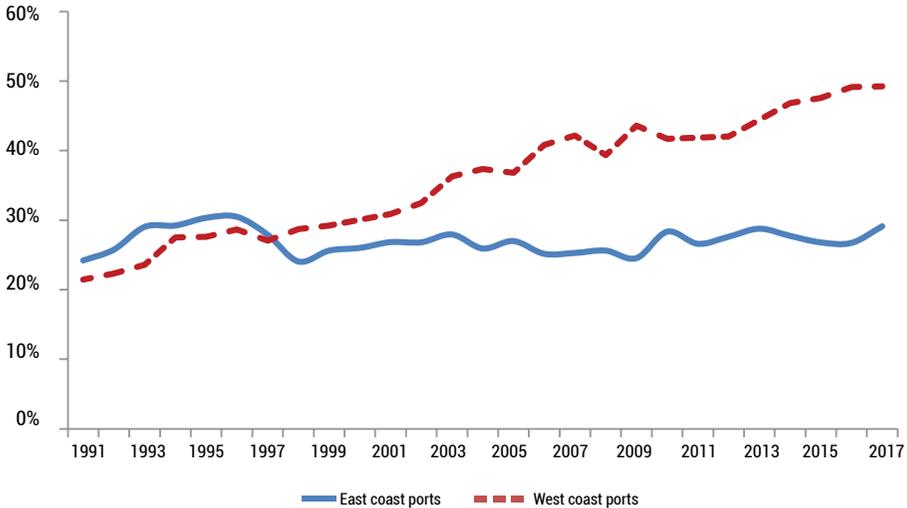


Figure 4: Changing share of eastbound trade in India's global trade (in value terms)



Note: POL and other bulk commodities are excluded from the calculation

Source: UNCOMTRADE database, August 2018, classified and compiled by Drewry Maritime Research

Eastbound vs westbound cargo flow

The rise in dependency on eastern countries was mainly due to India's increased sourcing of goods from China and other Asian countries. This coincides with Chinese entry in the World Trade Organisation (WTO) 2001. While India's dependency on the east as the export destination did not change much, but as the import source, the importance of the east increased drastically. 49% of India's import was from the east in 2017, which was just 30% in 2000.

Major containerised/containerisable exim cargo

For analysis, we have divided all traded commodities into 33 major categories, such as Pharmaceuticals, Fabric/Yarn, Steel Products, Reefer Food Products and Readymade Garments (RMG)/Textiles. As we do not have precise definitions of containerised and non-containerised cargo from any authoritative source, the data has some subjectivity built in.

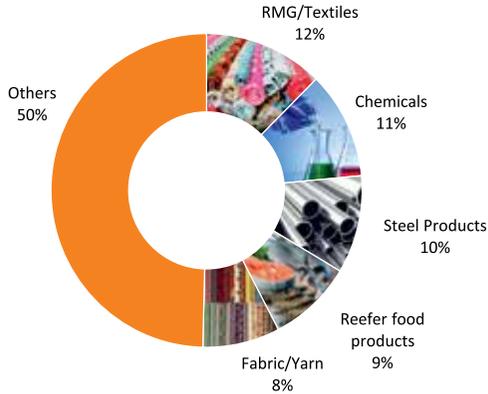
The RMG and Textile sector has traditionally maintained its top position in India's export basket. Exports in this sector rose from \$4.7 billion in 1997 to \$22.6 billion in 2017, a nearly five-fold increase in the last 20 years. Chemicals followed RMG/Textiles with an export value of \$20 billion in 2017, from a mere \$2 billion in 1997. Other sectors that witnessed a massive surge in India's exports are Steel Products, Reefer Food Products and Fabric/Yarn. The following chart depicts the share of major cargo types in the overall exports from India.

On the import side, the Electric and Electronic Goods segment is the largest product category imported into India. In the calendar year 2017, India imported \$46 billion worth of electrical and



electronic goods compared with just \$18 billion in 2007. Rising income levels, as well as the invention of user-friendly technology, combined with economies of scale in the production process in the Far Eastern countries, have led to high demand for electronic goods in India and elsewhere.

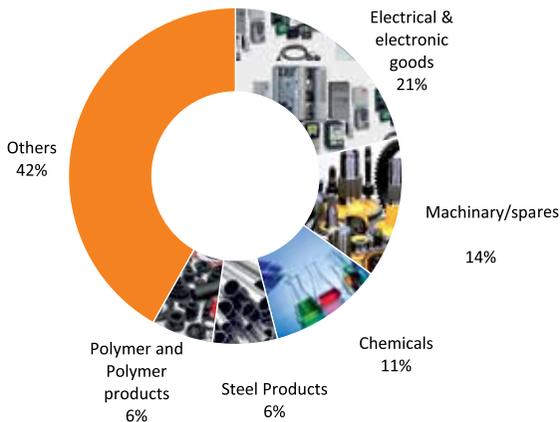
Figure 5: Major commodities exported from India in 2017



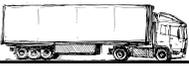
Source: UNCOMTRADE database, August 2018, classified and compiled by Drewry Maritime Research

Advanced mechanisation and industrialisation in the country have pushed imports of machinery and spare parts to a new level. The country imported \$29 billion worth of machinery and spare parts in 2017 over \$19 billion a decade ago. In India's import basket, Chemicals and Steel Products occupy third and fourth positions respectively, followed by Polymer and Polymer products.

Figure 6: Major commodities imported by India in 2017



Source: UNCOMTRADE database, August 2018, classified and compiled by Drewry Maritime Research



HINTERLAND MAPPING

After analysing the major containerised cargo being traded by India, let us shift our focus to the spatial distribution of exim cargo production/consumption centres. In India, no government or non-government agency publishes trade data based on state-wise export and import. Hence, in the absence of such data, Drewry has estimated the volume of cargo being exported and imported by production centres/states. We have identified 11 major industrial clusters in India that constitute more than 80% of the cargo traded by India globally. The following two maps showcase the significant industrial/cargo clusters in India and their respective share in India's total exports/imports, along with their primary cargo profile.

We foresee growth continuing in India's container trade. Drewry does not expect any drastic shift, in terms of major cargo centres or their share in India's total trade. We could see some change only after the commissioning of the Dedicated Freight Corridor (DFC) and the proposed Delhi-Mumbai Industrial Corridor (DMIC). DMIC will focus on the creation of industrial zones/clusters, while DFC will focus on the speedy and effective transportation of goods between these clusters and the ports on the western coast of India. DMIC would also include the development of requisite feeder rail/road connectivity to hinterland/markets and select ports along the west coast. Various investment regions and industrial parks have been proposed along the DMIC corridor to support industrial development. We expect the first phase of the DMIC to be commissioned by 2020-21. These two projects will give a much-needed boost to India's trade and commerce, if commissioned in a time bound manner.

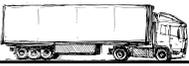


Major trade partners

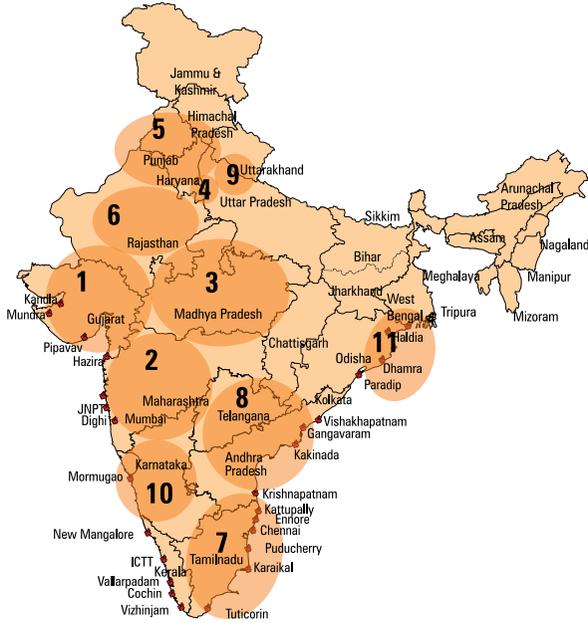
China's position as an export partner has strengthened tremendously in the last 20 years - the country, which stood 13th in 1997, stood at the third position in 2017 – within two decades. The US has been the preferred destination of Indian exports and has remained at the top for many decades. The UAE, which stood at the fourth position in 1997 became the second preferred export destination by 2007 and maintained its rank until 2017. India, in 2017, exported more than a quarter of its global exports to the US, China and the UAE.

Vietnam is perhaps the only country that has shown tremendous interest in Indian products - the highest improvement in the last 20 years – from 38th position in 1997 to fourth in 2017. The country ranks first in India's exports of Reefer Food Products. About 26% of India's total exports of Reefer Food Products are destined for Vietnam.

India's exports are more diversified than imports. Imports from the top 20 countries accounted for nearly 81% of India's total imports in 2017. By comparison, the top 20 export destinations (countries) constituted only 67% of India's global exports.



Major Centers of Cargo origin Exports from India



CLUSTER WISE ALL INDIA SHARE

01 Gujarat 12%

Castings and forgings, Textiles Ceramics, Electronics, Spices, Cotton, Stones, Chemicals and Petrochemicals, Pharmaceuticals, Auto components

02 Maharashtra 14%

Machinery, Cotton Yarn, Auto Components, Ready Made Garments, Stationery, Rice, Leather, Goods

03 MP and Chattisgarh 3%

Agro Commodities, Pulses, Newsprint, Pharmaceuticals, Spices Auto components, Electrical goods, Rice, Chemicals, Metal products, Alloys

04 NCR 13%

Leather and Leather Products, Non-Metallic mineral Products, Food Items, Consumer Durables, auto components, Rice

05 Punjab / Haryana / HP 9%

Yarn and Textiles, Handmade tools, Agri Products, Light engineering goods, Steel products, Leather

Yarn and Textiles, Handmade tools, Agri Products, Light engineering goods, Steel products, Leather products, food items

06 Rajasthan 3%

Textiles Handicrafts, Gems and Jewellery, Guar Gums, Stones

07 Tamil Nadu 16%

Cotton, Textiles, Fabric /Yarns, Electrical & electronic goods, Iron and Steel Coffee, Auto Machinery and Parts, Chemicals, Marine Products, Lether products, Agri products

08 Undivided AP 3%

Cotton Textiles Fabrics/Yarns, Electrical Goods, Auto Machinery and Parts, Chemicals, Food & Agri

Products, Paper Products, Stones/Granite, Reefer Food Products, Tobacco and Tobacco Products products, food items Cotton Textiles Fabrics/Yarns, Electrical Goods, Auto Machinery and Parts, Chemicals, Food & Agri Products, Paper Products, Stones/Granite, Reefer Food Products, Tobacco and Tobacco Products

09 UP & UK 3%

Leather products, Chemicals, Textiles, Rice, Handicrafts, Carpets

10 Karnataka 3%

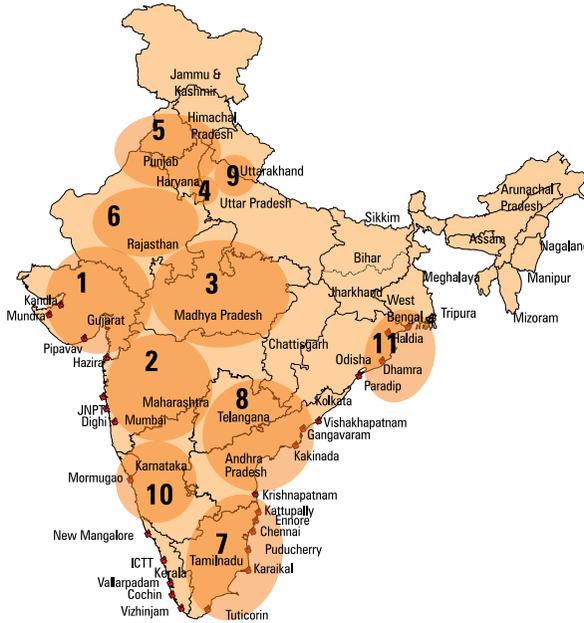
Cashew, Coffee, Auto Components, Stones, Garments, Food items

11 Odisha & West Bena 4%

Metal products, Marine, food, Textiles, Tea, Jute, Leather



Major Centers of Cargo Destination Imports in India



CLUSTER WISE ALL INDIA SHARE

- | | | |
|--|---|---|
| <p>01 Gujarat 12%
Cotton Yarn, Chemicals, Machinery, Timber, Machinery and Spare Parts</p> <p>02 Maharashtra 18%
Waste Paper, Scrap, Chemicals, Steel Coils, Machinery and Spare Parts, Plastic Woven Sacks, Electronics, Pulses</p> <p>03 MP and Chattisgarh 3%
Waste paper, Food grains, Chemicals, Metal scraps</p> <p>04 NCR 15%
News print, Paper, Auto Parts, Plastic Scrap, Metal Scrap, Machinery etc.</p> | <p>05 Punjab / Haryana / HP 8%
Metal Scrap, Yarn, Waste paper, Machinery, Food items</p> <p>06 Rajasthan 2%
News print Paper, Heavy Melting Scrap, Glass Scrap, Machinery</p> <p>07 Tamil Nadu 20%
Cotton, Textiles, Fabric / Yarns, Electrical Goods, Auto Machinery and Parts, Chemicals, Electronic Goods, Paper Pulp, Waste papers, Metal Scrap</p> <p>08 AP & Telangana 2%
Cotton Textiles Fabrics/Yarns, Electrical Goods, Auto Machinery and Parts, Chemicals, Food Products, Newsprint/waste paper, Rubber,</p> | <p>Iron and Steel, Metal Products, Wood Product/Furniture</p> <p>09 UP & UK 3%
Waste Paper, Metal Scrap, Chemical</p> <p>10 Karnataka 3%
Textile/Yarn, Chemicals, Electronics, Auto components</p> <p>11 Odisha & West Benge 6%
Chemicals, Metal Scrap, Electrical goods, Pulses</p> |
|--|---|---|

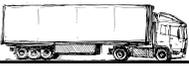


Table 1: India's top 20 export destinations in 2017

1997 Rank	2007 Rank	2017 Rank	Trend	Country	Share in India's total exports
1	1	1	→	United States	17.2%
4	2	2	↑	UAE	5.8%
13	5	3	↑	China	4.4%
38	22	4	↑	Vietnam	4.3%
2	3	5	↓	UK	3.9%
3	4	6	↓	Germany	3.9%
12	17	7	↑	Bangladesh	3.2%
6	6	8	↓	Italy	2.6%
9	7	9	→	Netherlands	2.0%
10	10	10	→	France	2.0%
21	12	11	↑	Saudi Arabia	2.0%
17	11	12	↑	Spain	1.9%
210	9	13	↑	Belgium	1.8%
15	19	14	↑	Malayasia	1.8%
34	33	15	↑	Nepal	1.8%
16	18	16	→	South Korea	1.7%
29	15	17	↓	Turkey	1.7%
5	18	18	→	Argentina	1%
18	19	19	↓	Canada	1%
22	20	20	↑	Ukraine	1%

Source: UNCOMTRADE database, August 2018, compiled by Drewry Maritime Research

→ No Change in Ranking

↓ Ranking improved

↑ Ranking decreased

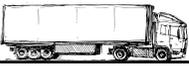
China's position as an import source has strengthened in the last 20 years. China stood at the ninth position in 1997 as far as India's imports are concerned. Its entry into the WTO in 2001 provided a boost to its global exports. By 2007, it became the preferred source of imports in India and many other countries. In 2017, China accounted for 31% of India's total imports. The reason for the rise is the cost-effectiveness of some of its goods. Input costs in China are much lower than in India, and the scale of operations of many players is much higher than Indian operational units. Some products can be manufactured at a third of the price at which they are made in India. The range of products that have been imported has been expanding. Apart from China, Indian imports have improved from some of the East and South East Asian countries, for example, South Korea, Indonesia and Thailand. The share of US products in the Indian market has declined and constituted only 6% in 2017.



Table 2: India's top 20 import sources in 2017

1997 Rank	2007 Rank	2017 Rank	Trend	Country	Share in India's total imports
9	1	1	↑	China	31%
1	2	2	↓	USA	6%
6	5	3	↑	South Korea	6%
2	3	4	↓	Germany	6%
3	4	5	↓	Japan	4%
12	9	6	↑	Indonesia	4%
5	8	7	↓	Malaysia	3%
25	11	8	↑	Thailand	3%
7	6	9	↓	Singapore	3%
8	7	10	↓	Italy	2%
20	20	11	↑	Saudi Arabia	2%
78	58	12	↑	Vietnam	2%
19	16	13	↑	UAE	2%
16	23	14	↑	Australia	1%
4	10	15	↓	UK	1%
10	13	16	↓	France	1%
27	32	17	↑	Brazil	1%
33	29	18	↑	Argentina	1%
18	18	19	↓	Canada	1%
22	26	20	↑	Ukraine	1%

Source: UNCOMTRADE database, August 2018, classified and compiled by Drewry Maritime Research ↓ No Change in Ranking ↓ Ranking improved ↑ Ranking decreased



TOP COMMODITY- PARTNER MATRIX

RMG/textile is the most exported commodity by India, the bulk of this commodity is exported to North America (28%) and the remaining to Western Europe.

Chemicals are the second largest exported product. Although the US is the top export destination for Indian manufactured chemicals, India exports a considerable amount of chemicals to China. On the import side, India imports chemicals mostly from China, Saudi Arabia, the US and Singapore. These four countries account for more than half of India's chemical imports, in terms of value.

India is one of the top 10 steel exporters of the world. In 2013, steel products worth \$18.4 billion were exported, making it the third highest commodity exported. Steel products were also the fourth largest commodities imported by India in 2017. While the US, Italy and the UAE are the three top export destinations for Indian steel products, China, Korea and Japan are the top three imports sources.

For imports, the top two items are Electrical & Electronic Goods and Machinery and Spares. China with its input cost advantage offers products that are about 30-50% cheaper than India. Even though it hurts many manufacturers in India, the volume of imports from China has increased manifold in the last few years. In 2017, India imported \$27.3 billion worth of electrical and electronic goods from China, which is nearly 60% of its global imports. The other major source of import is South Korea.

Reefer Food Products is another category that is exported in large quantity from India, mostly destined for countries in South East Asia, the US and the UAE. Meanwhile, India also imports plenty of Reefer Products. This product category ranks fourth on India's exports, whereas it ranks seventh on the imports commodity list. Import sources for reefer food products are more diversified than exports.



Table 3: India's top exported products and their respective top destinations, 2017 (US\$ billion)

	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5	World Exports	Top 5 share
RMG/Textiles	USA	UAE	UK	Germany	Spain		
	6.4	3.6	2.0	1.4	0.9	22.6	63.4%
Chemicals	USA	China	Germany	Saudi Arabia	UAE		
	2.3	2.0	0.8	0.7	0.7	20.1	32.4%
Steel Products	USA	Italy	UAE	Belgium	Vietnam		
	2.0	1.3	1.2	1.0	0.9	18.4	34.6%
Reefer food products	Vietnam	USA	UAE	Malaysia	Japan		
	4.2	2.9	1.0	0.6	0.6	15.9	58.1%
Fabric/Yarn	Bangladesh	China	USA	Turkey	Pakistan		
	2.2	1.4	1.4	0.7	0.7	14.6	43.5%
Pharmaceuticals	USA	South Africa	UK	Russia	Nigeria		
	4.6	0.5	0.4	0.4	0.4	12.9	48.7%
Machinery/spares	USA	Germany	UAE	Bangladesh	UK		
	1.7	0.6	0.5	0.4	0.4	10.9	32.6%
Electrical & electronic goods	USA	UAE	Germany	China	UK		
	1.3	0.6	0.5	0.5	0.3	8.8	35.7%
Auto & auto components	USA	Turkey	Bangladesh	Sri Lanka	Mexico		
	1.1	0.4	0.4	0.3	0.3	6.8	37.2%
Polymer and Polymer products	USA	China	UAE	Italy	Turkey		
	0.7	0.4	0.3	0.3	0.3	5.9	33.6%

Source: UNCOMTRADE database, August 2018, classified and compiled by Drewry Maritime Research

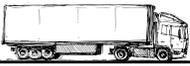


Table 4: India's top imported products and their respective top sources, 2017 (US\$ billion)

	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5	World Imports	Top 5 share
Electrical & electronic goods	China	South Korea	USA	Malaysia	Germany		
	27.3	3.3	1.6	1.6	1.5	46.5	75.8%
Machinery/spares	China	Germany	Japan	USA	Italy		
	11.8	3.2	2.1	1.7	1.4	29.4	68.7%
Chemicals	China	Saudi Arabia	USA	Singapore	South Korea		
	7.7	1.7	1.7	1.5	1.1	24.1	56.8%
Steel Products	China	Korea, Rep.	Japan	USA	Germany		
	3.0	2.4	1.5	0.7	0.5	13.7	58.9%
Polymer and Polymer products	China	South Korea	USA	Saudi Arabia	Thailand		
	2.1	1.4	1.0	1.0	0.9	13.0	49.1%
Food Products	Indonesia	Argentina	Ukraine	Malaysia	Brazil		
	5.3	2.3	1.8	1.6	0.4	12.4	91.4%
Reefer food products	Australia	Canada	USA	Myanmar	Tanzania		
	1.6	1.0	1.0	0.5	0.4	7.8	57.6%
Metals & metal products	China	South Korea	UAE	Malaysia	Vietnam		
	1.1	0.8	0.7	0.6	0.5	7.5	49.7%
Paper and Paper Products	USA	China	Indonesia	Canada	Russia		
	0.8	0.6	0.4	0.4	0.4	5.4	47.7%
Auto & auto components	China	Germany	South Korea	Japan	Thailand		
	1.2	0.8	0.7	0.6	0.4	5.1	74.4%

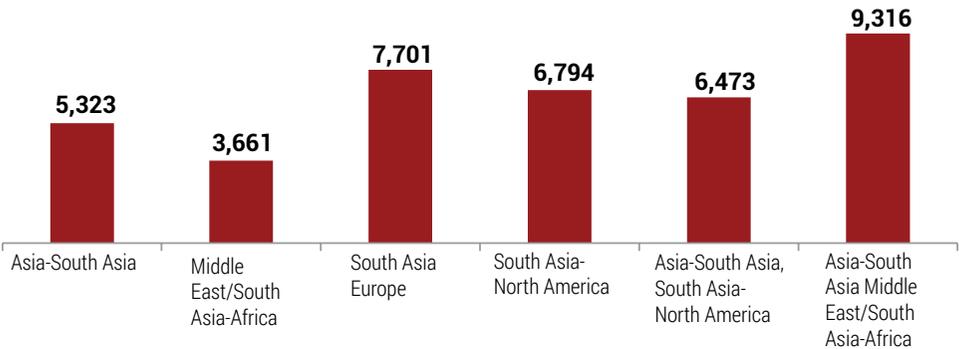
Source: UNCOMTRADE database, August 2018, classified and compiled by Drewry Maritime Research



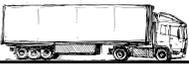
With the increase in cargo volume and the proliferation of private ports in India, the number of services calling has increased over the years. Thirty-seven mainline services called at Indian ports in 2011, which rose to 45 in July 2018.

India is on the main east-west trade route (Asia-Europe) and the average vessel size calling at Indian ports has also increased. The average vessel size at Indian ports was 3,715 teu in 2011, which strengthened to 6,239 teu in 2018. An illustration of average vessel sizes for major trade lanes is shown in the figure below.

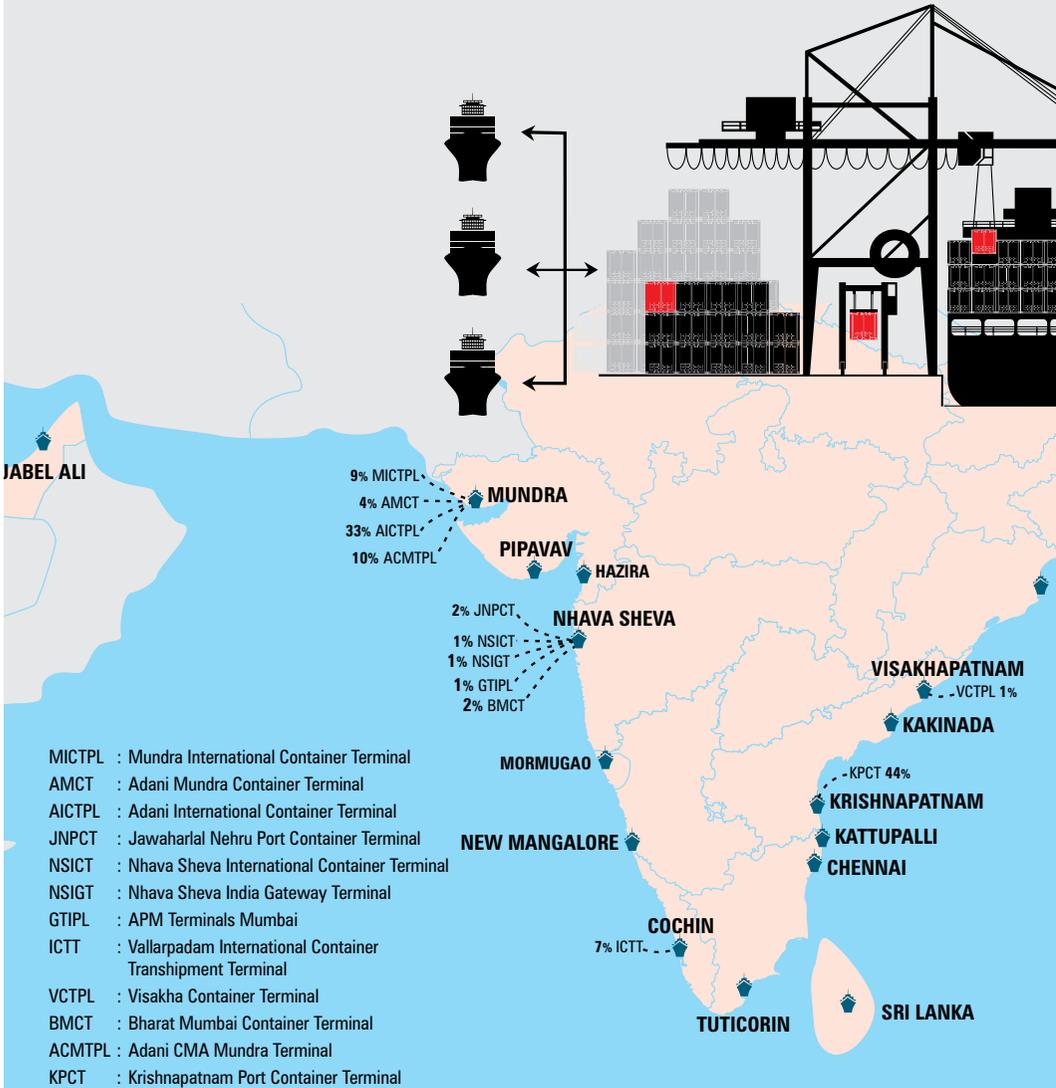
Figure 7: Trade route-wise average vessel size calling at Indian ports in TEU



Source: Drewry maritime Research



TRANSHIPMENT AT INDIAN CONTAINER TER



- MICTPL : Mundra International Container Terminal
- AMCT : Adani Mundra Container Terminal
- AICTPL : Adani International Container Terminal
- JNPCT : Jawaharlal Nehru Port Container Terminal
- NSICT : Nhava Sheva International Container Terminal
- NSIGT : Nhava Sheva India Gateway Terminal
- GTIPL : APM Terminals Mumbai
- ICTT : Vallarpadam International Container Transhipment Terminal
- VCTPL : Visakha Container Terminal
- BMCT : Bharat Mumbai Container Terminal
- ACMTPL : Adani CMA Mundra Terminal
- KPCT : Krishnapatnam Port Container Terminal



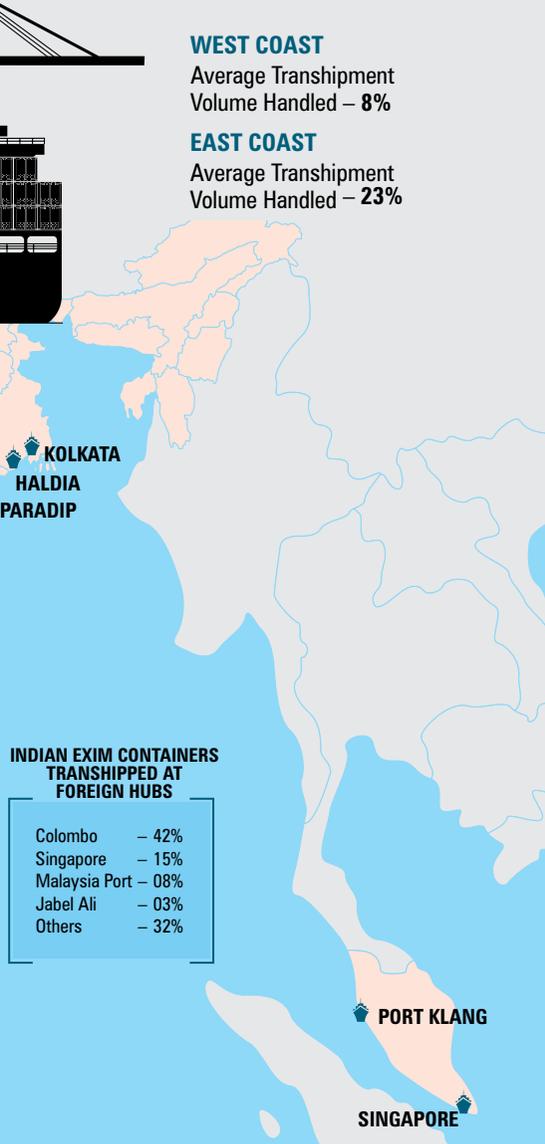
TERMINALS (FY 2017-18)

WEST COAST

Average Transshipment Volume Handled – 8%

EAST COAST

Average Transshipment Volume Handled – 23%



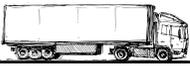
INDIAN TRANSHIPMENT SCENARIO:

Since last few years, it was quite evident that Indian ports have built huge capacities not only to serve EXIM cargo but also to recapture the transshipment volume which has been handled by neighbouring ports. There are not much effective strategies implemented by major ports still, but on the other side private port operators are striving to bring back the lost cargo from neighbouring foreign ports. Adani Mundra Port, Adani Hazira Port and Cochin Port on west coast and Krishnapatnam and Visakhapatnam port on east coast have shown impressive results in handling transshipment volumes.

Some major Indian reforms in the last two years, such as competitive pricings, infrastructure upgradations, and liberalized cabotage rules, have induced interest among port operators, who are now reaping benefits of handling transshipment at Indian coast in order to diminish transshipment at foreign ports in FY 2017 and FY 2018.

Adani Mundra port, being the biggest private player by throughput in India, registered around 17% of transshipment cargo in its total containerized cargo handled in FY 2017-18, Vallarpadam International container transshipment terminal (ICTT) is able to handle 6% of transshipment and biggest major port, Jawaharlal Nehru Port Trust (JNPT) handled meagre 1.3% of transshipment volume.

Visakhapatnam, Krishnapatnam, Haldia, Kattupalli, Chennai Ports on east coast can transform as transshipment hubs, but inadequate steps have been taken to tap the market, excluding Krishnapatnam which handled almost 50% of its annual cargo in transshipment, while arresting the cargo which used to be handled at Singapore earlier. Haldia Port should also explore measures to attract cargo from Bangladesh via inland waterways



options for transshipment. Mundra, Hazira, Pipavav and Cochin Ports on west coast have the potential to transform themselves into "transshipment hubs" and, in turn, increase their freight handling to increase the capacity utilization at ports.

After cabotage relaxation, foreign-flagged carriers can carry EXIM laden and empty containers between Indian ports without any specific permission or license, and also Indian government is keen in promoting major ports and key private ports on the east and west coast to take advantage of expected demand growth in a more favourable market environment.

Reforms in shipping industry in this FY 2017-18, further trigger Indian ports to tap transshipment cargo in order to recapture the cargo which is presently handled at Colombo Port, Sri Lanka, and Singapore.

Nevertheless, it is very early to estimate how much cabotage relaxation could help the trade in attracting more transshipment cargo at Indian ports. On the flip side, few ports are still struggling with port side congestion, pricing, draft and infrastructure issues. Unless these issues are addressed, it is difficult to gauge the transshipment scenario at Indian ports.

Adani Mundra Port handled total volume of 4,114,544 TEUs in FY 2017-18 with transshipment volume of 17% (includes DP world volumes). Joint venture of Adani Group and Mediterranean Shipping Co (MSC), Adani International Container terminal Private Limited (AICTPL) is standing ahead of peers with highest per cent of transshipment volume of 32% in its total throughput. Adani Mundra port handled 426,994 TEUs of transshipment cargo in FY 2016-17, which is around 12.3 per cent out of its total volume of 3.45 million TEUs. In FY 2015-16, Mundra moved 366,217 TEUs of transshipment, out of the 3 million TEU handled.

The first ever transshipment port in India called Vallarpadam ICTT was in limelight quite for some time for several reasons like exclusive cabotage relaxation and for being closer to international shipping route, but these benefits still could not reap desired results. This terminal has witnessed miniscule year-on-year growth

despite significant uptick in total throughput. Vallarpadam ICTT handled 555,812 TEUs in FY 2017-18, includes 35,363 TEUs of transshipment, compared with 31,498 TEUs of transshipment cargo from 491,087 TEUs in FY 2016-17. Vision of DP World's International Container Transshipment Terminal (ICTT) is not achieved yet but the Dubai-based operator DP world is keen in improving its number.

Krishnapatnam Port Container Terminal (KPCT) has an exponential growth in volume handled along with transshipment volumes. This terminal handled 212,466 TEUs of transshipment from 479,552 TEUs of throughput in FY 2017-18. Advanced infrastructure, high draught and strategic competitive pricing seem to be the key drivers in staggering rise in transshipment cargo. Other major ports on east and west mainly fall behind as they are unable to serve the trade with the expected lower port and vessel related charges. Highest container volume handling major port on East coast, Chennai Port is also unable to serve the transshipment yet. Transshipment at Colombo Port, Sri Lanka and at Port Klang in Malaysia costs 2-3 percent high when compared with Indian ports like Visakhapatnam, Krishnapatnam and Chennai. As per our estimates, around 1.5-2 million TEUs of south Indian transshipment cargo is currently handled via Southeast Asian ports annually.

Proposed Transshipment hubs:

Tamil Nadu's major and private port names were in the race for establishing or creating the best infrastructure to recapture the cargo. The volume will grow substantially in the forthcoming years, as a result of the new liberalized cabotage rules but tough competition among existing and upcoming transshipment players can definitely give shipper an advantage to get competitive price eventually help the Indian economy to benefit.

Deepwater, green-field transshipment port at Enayam, near Colachel in Tamil Nadu encompasses a three-phase development with a total investment of about Rs. 27,500 crore. Phase I, involving two berths with a 400-meter quay length each and an annual capacity of 1.6 million TEU will be developed



with Rs. 6,575-crore. Phase I is envisaged to start operations by 2020. Adani Ports' under-construction Vizhinjam project could pressurize the existing Vallarpadam ICTT further. Its first phase is designed to handle 1.8 million TEU per year, and it is scheduled to open in 2019.

East coast cargo of India is mostly transhipped at Colombo followed by Singapore port, Port Klang, Malaysia; and Jebel Ali, United Arab Emirates. Lack of forward thinking approach by previous governments, lethargic moves by ports to tap cargo and also in creating appropriate infrastructure and aggregation of sufficient EXIM cargo to attract mainline vessel to call, are the primary reasons for Indian cargo being transhipped at foreign ports.

Cabotage relaxation affects

Cabotage relaxation will definitely spurt the trade growth across Indian coast while creating a healthy competition within the EXIM feeding trade. With the competition, feeding rates may slice down, helping exporters and importers with more competitive pricing. Relaxation will also fillip the trade, while boosting Indian ports and terminals. Indian ports are actually losing revenue of around \$2-3 million a year by not allowing foreign vessels to ply on local routes.

On the flip side, with post cabotage relaxation, foreign carriers mostly get benefitted in moving empty containers between Indian ports. Foreign container lines transhipped 3,500 twenty-foot equivalent units (TEUs) for 10 days in May 2018 after Shipping Ministry eased cabotage rules on May 21 2018, followed by 11,599 TEUs in June 2018, and around 17,000 TEUs in July. Few shippers expressed that the money saved by foreign mainlines on carrying empties has not been passed on to the trade.

Colombo Port, dependent highly on Indian cargo containers has slashed transshipment rates by 9.5 per cent after India lifted cabotage restrictions. The transshipment charges approved by TAMP for container terminals at major port trusts is about \$57 per TEU, while it is \$80 per TEU in Colombo and \$110 in Singapore. On the other hand, a shipping line pays Rs 11 lakh more in vessel-related charges for calling at Vallarpadam ICTT compared to Colombo.

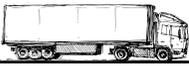
In June, about 3,000 laden containers got transhipped from Indian ports. In July, it was close to about 5,500 containers. As the numbers are growing exponentially, we estimate that around 10 per cent of what was being transhipped outside the country will be able to come back to Indian ports.

Indian major port's EXIM containers, depending upon various foreign ports, in the last financial year declined 2 per cent to 2,780,000 TEUs from 2,840,000 TEUs in the previous year, in spite of 3 per cent growth in Indian total container throughput at major ports during the same year. Indian transshipment cargo represents 30-35 per cent of the Indian major ports' combined volume for FY 2016-17.

Indian Cargo Transhipped at foreign hubs:

Sri Lanka's Colombo Port which essentially thrives on the Indian Subcontinent transshipment trade captured 42 per cent of Indian freight in FY 2017-18, or 1.3 million TEUs, compared with 1.1 million TEU (40 % share) in 2016-2017 and 1,190,000 TEUs (42%) in FY 2015-16. Other country transshipment ports also captured modest transshipment volumes of India. Singapore is the second-largest hub of Indian transshipment cargo, as it handled 465,000 TEUs or 15 per cent, down from 21 per cent previously in FY 2016-17 and 17 per cent in FY 2015-16, followed by Port Klang, Malaysia, at 237,000 TEUs or 7.5 per cent, down from 9.3 per cent in FY 2016-17, compared with 8 per cent in FY 2015-16. Jebel Ali, UAE, handled Indian transshipment cargo of 90,000 TEUs, hovering around 3 per cent in FY 2017-18 as well as in FY2017 and FY2016. Others, at 1million TEUs are 32 per cent up in FY 2018 from 25 per cent in FY 2017. This also points at Indian shippers' growing use of new, emerging hub ports, such as Khalifa (Abu Dhabi), Salalah (Oman), and Hamad (Qatar) on the strength of improved regional connectivity.

Port of Colombo moving aggressively enhancing capacity and other infrastructure by slashing down prices to attract more transshipment cargo, could give tough competition to Indian ports. All of these moves by Indian and foreign transshipment hubs eventually ease Indian shippers while reducing logistics costs further.

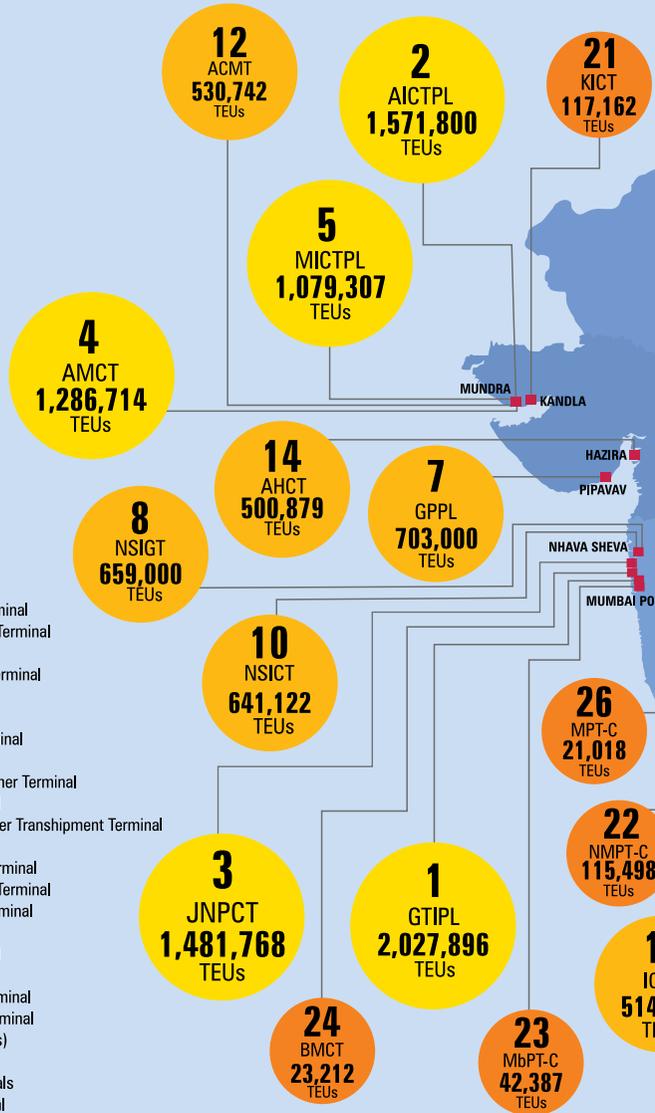


TERMINALS RANKING

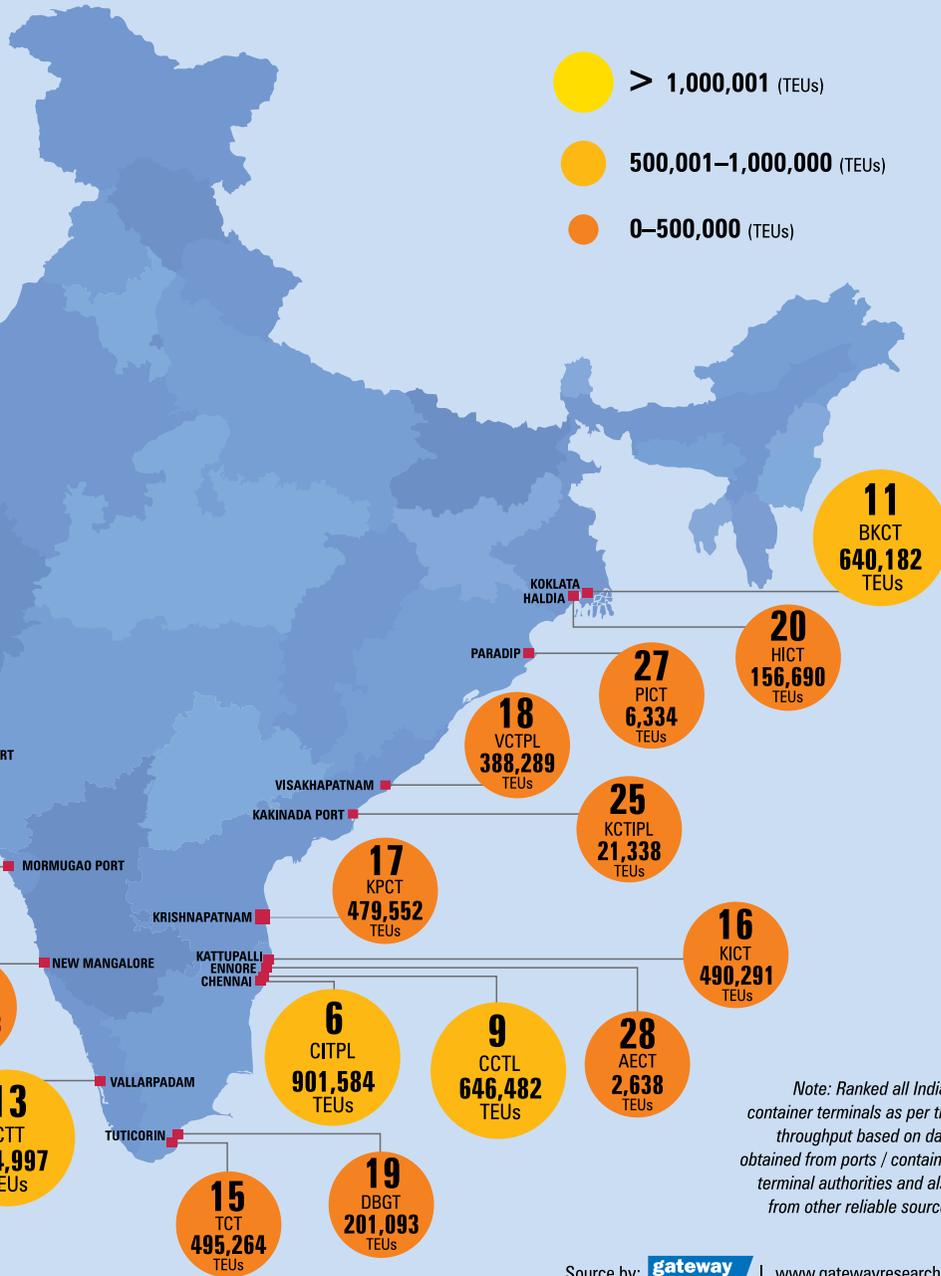
(FY 2017-18)

Total Installed Capacity
27,050,000 TEUs

Total Throughput
15,372,931 TEUs



- GTIPL : APM Terminals Mumbai
- AICTPL : Adani International Container Terminal
- JNPCT : Jawaharlal Nehru Port Container Terminal
- AMCT : Adani Mundra Container Terminal
- MICTPL : Mundra International Container Terminal
- CITPL : Chennai International Terminal
- GPPL : APM Terminals Pipavav
- NSIGT : Nhava Sheva India Gateway Terminal
- CCTL : Chennai Container Terminal
- NSICT : Nhava Sheva International Container Terminal
- BKCT : Bharat Kolkata Container Terminal
- ICTT : Vallarpadam International Container Transhipment Terminal
- AHCT : Adani Hazira Container terminal
- TCT : PSA SICAL Tuticorin Container Terminal
- KICT : Kattupalli International Container Terminal
- KPCT : Krishnapatnam Port Container Terminal
- VCTPL : Visakha Container Terminal
- DBGT : Dakshin Bharat Gateway Terminal
- ACMTPPL : Adani CMA Mundra Terminal
- HICT : Haldia International Container Terminal
- KICT : Kandla International Container Terminal
- NMPT-C : New Mangalore Port - (Containers)
- MbPT-C : Mumbai Port - Containers
- BMCT : Bharat Mumbai Container Terminals
- KCTIPL : PSA - Kakinada Container Terminal
- MPT-C : Mormugao Port -Containers
- PICT : Paradip Port - Containers
- AECT : Adani Ennore Container Terminal

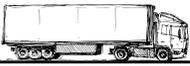


*map not to scale

Note: Ranked all Indian container terminals as per the throughput based on data obtained from ports / container terminal authorities and also from other reliable sources

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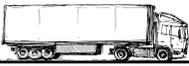
I N D I A N C O N T A I

Container Terminal Name	Called as	Operated by	Year of Commission	Draft (m)	Berths	Quay Length (m)	Installed Capacity (TEUs)
APM Terminals Pipavav	GPPL	APM Terminals Pipavav	2002	15.5	2	735	1,350,000
Mundra International Container Terminal	MICT	DP World	2003	14.5	2	632	1,300,000
Adani Mundra Container Terminal	AMCT	Adani Ports & SEZ Ltd	2007	17.5	2	631	1,200,000
Adani International Container Terminal	AICTPL	JV of Adani Ports & SEZ Ltd and MSC	2012	17.0	4	1460	3,000,000
Adani CMA Mundra Terminal	ACMTPL	JV of APSEZ and CMA CGM SA	2017	16.5	2	650	1,300,000
Adani Hazira Container terminal	AHCT	Adani Ports & SEZ Ltd	2012	13.0	2	637	1,000,000
Kandla International Container Terminal	KICTL	ICTIPL & JM Baxi Group	2016	13.0	2	545	600,000
Jawaharlal Nehru Port Container Terminal	JNPCT	Jawaharlal Nehru Port Trust	1989	14.0	3	680 & 445	1,500,000
Nhava Sheva International Container Terminal	NSICT	DP World	1999	14.0	2	600	1,200,000
Nhava Sheva India Gateway Terminal	NSIGT	DP World	2015	14.0	1	330	800,000
APM Terminals Mumbai	GTIPL	APM Terminals and CONCOR	2006	14.0	2	840	1,800,000
Bharat Mumbai Container Terminals	BMCTPL	PSA International	2018	16.5	3	1000	2,400,000
New Mangalore Port	NMPT	New Mangalore Port Trust	NA	NA	NA	NA	NA
Mormugao Port	MPT-C	Mormugao Port Trust	NA	13.1	1	250	NA
Vallarpadam International Container Transhipment Terminal	ICTT	DP World	2011	14.5	2	605	1,000,000
Paradip Port	PICT	ICTIPL - JM Baxi	2018	17.1	1	450	NA
Chennai Container Terminal	CCTL	DP World	2001	15	4	885	1,200,000
Chennai International Terminal	CITPL	PSA Chennai	2009	15.5	3	832	1,250,000
Adani Ennore Container Terminal	AECTPL	Adani Ports & SEZ Ltd	2017	18.0	1	400	800,000
Visakha Container Terminal	VCTPL	ICTIPL & DP World	2003	16.5	2	450	700,000
Krishnapatnam Port Container Terminal	KPCT	KPCT	2012	16.5	2	650	1,200,000
Kattupalli International Container Terminal	KICT	Adani Ports & SEZ Ltd	2013	14.0	2	710	1,200,000
Bharat Kolkata Container Terminal	BKCT	PSA International Provides O & M services	1979	8.5	5	812	850,000
Haldia International Container Terminal	HICT	ICTIPL - JM Baxi	1977	8.5	2	432	250,000
PSA SICAL Tuticorin Container Terminal	TCT	Sical and PSA International	1999	10.9	1	370	450,000
Dakshin Bharat Gateway Terminal	DBGT	Dakshin Bharat Gateway Terminal Pvt Ltd	2014	12.8	1	345	600,000
PSA - Kakinada Container Terminal	KCTPL	Bothra Shipping, Kakinada Infrastructure Holdings and PSA Chennai Investments	2015	14.5	1	300	100,000
Mumbai Port - Containers	MbPT-C	Mumbai Port	NA	NA	NA	NA	NA



N E R T E R M I N A L S

Yard Area (ha)	Throughput FY 2017-18	Total Ground Slots (TGS)	Reefer Plugs	Quay Cranes	RTGC	RMGC	Reach Stackers	Fork Lifts	Capacity Utilization (%)
36.00	703,000	3409	525	3 Panamax and 5 Post Panamax	20	4	9	2	52.07
25.00	1,089,155	5400	366	4 Super post panamax and 2 Post panamax	18	2	2	4	83.78
16.70	1,286,714	4014	366	6 Super Post Panamax	20	NA	3	NA	107.23
65.00	1,571,800	13903	405	15 Super Post Panamax	45	3	3	NA	52.39
28.00	530,742	6500	400	4 Super Post Panamax	12	NA	NA	NA	40.83
20.00	500,879	3500	120	4 Post Panamax and 2 Super Post Panamax	16	NA	2	NA	50.09
18.74	117,162	NA	48	4 Super Post Panamax	8	NA	4	NA	19.53
61.5 & 9.9	1,481,768	10482	576	9 Super Post panamax	18	5	10	3	98.78
25.84	641,122	6222	778	6 Post Panamax and 2 Super Post Panamax	29	3	3	2	53.43
27.00	659,000	NA	336	4	12	0	1	NA	82.38
52.00	2,027,896	9723	880	10 Post Panamax	40	3	2	6	112.66
90.00	23,212	9366	1620	12	4	36	NA	NA	0.97
NA	115,498	NA	150	Mobile Harbour cranes	NA	NA	3	NA	NA
1.50	21,018	489	84	2 Mobile Harbour Cranes	NA	NA	2	NA	NA
12.00	514,997	2500	450	4 Super Post Panamax	15	NA	3	NA	51.50
4.80	6,334	NA	15	3 Mobile Harbour Crane	2	NA	2	6	NA
18.00	646,482	3960	355	8 Super Post Panamax	23	3	2	1	53.87
35.00	901,584	5424	306	3 Post Panamax and 4 Super Post Panamx	18	NA	6	NA	72.13
NA	2,638	4000	NA	4 Super post panamax cranes	12	NA	1	NA	0.33
16.40	388,289	2500	204	2 Panamax and 2 Post Panamax	6	0	5	3	55.47
36.00	481,716	5000	400	5 Super Post Panamax	9	0	10	2	40.14
20.00	493,260	5120	360	6 Super Post Panamax	15	NA	3	4	41.11
13.30	640,182	3000	NA	Mobile Harbour Cranes	NA	NA	9	NA	75.32
9.00	156,690	3000	NA	2 Panamax	4	NA	2	NA	62.68
4.00	495,264	1000	84	3 Post Panamax	8	0	2	1	110.06
6.50	201,093	400	NA	3	9	0	2	0	33.52
5.00	21,338	400	90	2 Post Panamax	0	0	2	NA	21.34
NA	42,387	NA	NA	NA	NA	NA	NA	NA	NA



PERFORMANCE OF INDIAN CONTAINER TERMINALS (FY 2017-18)

Names	Volume Handled	Annual Growth
APM Terminals Pipavav	Medium	Medium
Mundra International Container Terminal	High	Low
Adani Mundra Container Terminal	High	High
Adani International Container Terminal	High	High
Adani CMA Mundra Terminal	Medium	High
Adani Hazira Container terminal	Medium	High
Kandla International Container Terminal	Low	High
Jawaharlal Nehru Port Container Terminal & Shallow Draught terminal	High	Low
Nhava Sheva International Container Terminal	Medium	Low
Nhava Sheva India Gateway Terminal	Medium	High
APM Terminals Mumbai	High	High
New Mangalore Port - Containers	Low	High
Mormugao Port - Containers	Low	Medium
Mumbai Port - Containers	Low	Low
Vallarpadam International Container Transshipment Terminal	Medium	High
Paradip Port - Containers	Low	High
Chennai Container Terminal	Medium	Low
Chennai International Terminal	Medium	Medium
Visakha Container Terminal	Low	Medium
Krishnapatnam Port Container Terminal	Low	High
Kattupalli International Container Terminal	Low	High
Bharat Kolkata Container Terminal	Medium	Low
Haldia International Container Terminal	Low	High
PSA SICAL Tuticorin Container Terminal	Low	Low
Dakshin Bharat Gateway Terminal	Low	High
PSA - Kakinada Container Terminal	Low	High

Reference	Volume(Mi TEUs)*	Annual Growth
Low	0-0.5	<5%
Medium	0.5-1	5-10%
High	>1	10%+

* Mi TEUs - Million Twenty Foot Equivalent Units



MUNDRA INTERNATIONAL CONTAINER TERMINAL

Terminal Address

New Mundra Port,
Navinal, Mundra,
Kutch - 370 421,
Gujarat, India

DP World is the operator of Mundra International Container Terminal (MICT) that is constantly evolving and transforming to offer customized and efficient services to the EXIM trade. In November 2017, the terminal added a new quay crane and a remotely operated rail mounted gantry crane (RMGC) to its existing infrastructure. With upgraded infrastructure, the terminal continues to register best productivity and efficiency. Its gross crane rate (GCR) and berth productivity increased by 10% and 18% respectively as compared to 2017. The installation of the new RMGC ensured faster train turnaround time, higher by 21% over last year. MICT also electrified its existing rubber tyre gantry cranes (RTGs), which contributed to lower truck turnaround time and improvement in yard efficiency.

The adoption of this advanced technology, combined with MICT Container Freight Station (CFS), makes DP World Mundra the terminal of choice in the northern hinterland of the country. Through

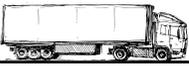
CFS, DP World provides a hassle-free single window solution for faster movement of cargo, while furthering its promise of end-to-end value added services for customers.

MICT has successfully handled 10 million TEUs since its inception in June 2003. In 2017, the terminal handled over 1.16 million TEUs. It continues to excel in areas of efficiency, achieving an average gross crane rate (GCR) at 33 moves per hour, putting MICT in the top quartile of the

best performing container terminals globally. The terminal productivity metrics are at an all time high with berth productivity at 115.35 moves per hour and GCR of 33.34. The terminal also added new services and routes - it added Protea Service of Maersk Line Africa, IAGX service of Tehama to Upper Gulf.

MICT has registered a negative growth of 0.7% of throughput in FY 2017-18 against previous year volume. 9% of the volumes handled by the terminal are transshipment and post cabotage relaxation the terminal is expecting incremental growth in forthcoming years.





ADANI MUNDRA CONTAINER TERMINAL

Terminal Address

New Mundra Port,
Navinal, Mundra,
Kutch - 370 421
Gujarat, India

Adani Mundra Container Terminal (AMCT) is owned and operated by Adani Ports and SEZ Ltd. This terminal has witnessed throughput of 0.92 million TEUs in FY 2017-18 with a growth of 6 per cent against previous year volume. The terminal has also registered decent capacity utilization of 77 per cent with sufficient installed capacity available for the trade. This terminal also handled 0.04 million TEUs of transshipment in its total volume handled in FY 2017-18.

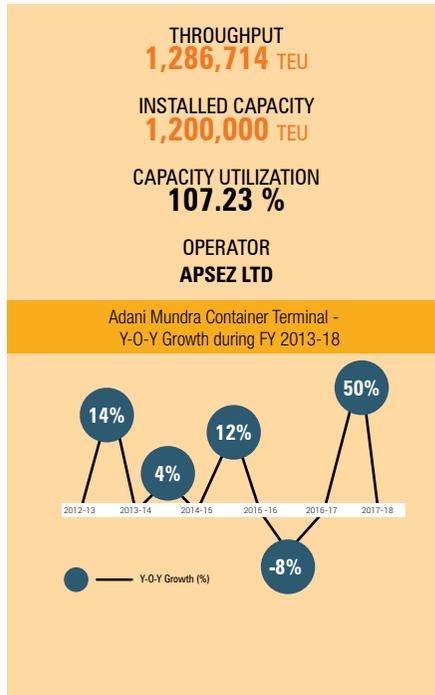
AMCT consists of two in-line berths with a total quay length of 631 metres and alongside draft of 17.5 metres. It also has the flexibility to handle double stack container trains to northern and western India.

The terminal's dwell time of containers through train movement in import cycle was 73.58 hrs in April 2018 and it increased further and clocked 119.28 hours in May 2018. The import dwell time of containers through truck movement in April 2018 was 29.54 hrs and 119.28 hours in May 2018. On the flip side, there has been substantial dip in export dwell time of the terminal.

The terminal's dwell time of containers through train movement in export cycle is 121.3 hrs in April 2018 and it decreased to 105.16 hours in May 2018. The export dwell time of containers through truck movement in April 2018 is 93.15 hrs and 87.63 hours in May 2018.

AMCT offers the following services namely AGI Service (Port Klang, Colombo, Jebel Ali, Karachi, Mundra, Colombo), IGI Service (Port Klang, Colombo, Jebel Ali, Karachi, Mundra, Colombo), AIS Service (Port Klang, Nhava Sheva, Mundra, Karachi, Mundra, Cochin), AGIS service (Jebel Ali, Mundra), ASX Service (Jebel Ali, Mundra, Nhava Sheva, Jebel Ali, Mundra, Hazira, Nhava Sheva,

Pipavav, Bin Qasim, Karachi, Mundra, Colombo, Mundra, Hazira, Nhava Sheva, Khalifa Port, Jebel Ali, Khor Al Fakkan), PM2 service (Hong Kong, Nansha, Shekou, Singapore, Port Klang, Colombo, Karachi, Mundra, Port Kelang, Fuzhou New Port), MINA service (Khor Al Fakkan, Jebel Ali, Port Qasim, Mundra, Nhava Sheva, Jeddah, Port Said East, Malta), and also running services PIX 2 (Chittagong, Tuticorin, Cochin, Jebel Ali, Mundra, Kattupalli, Kakinada, Vizag, Tuticorin, Cochin, Jebel Ali, Mundra, Cochin) coastal service.





ADANI INTERNATIONAL CONTAINER TERMINAL

Terminal Address

New Mundra Port,
Navinal, Mundra,
Kutch - 370 421
Gujarat, India

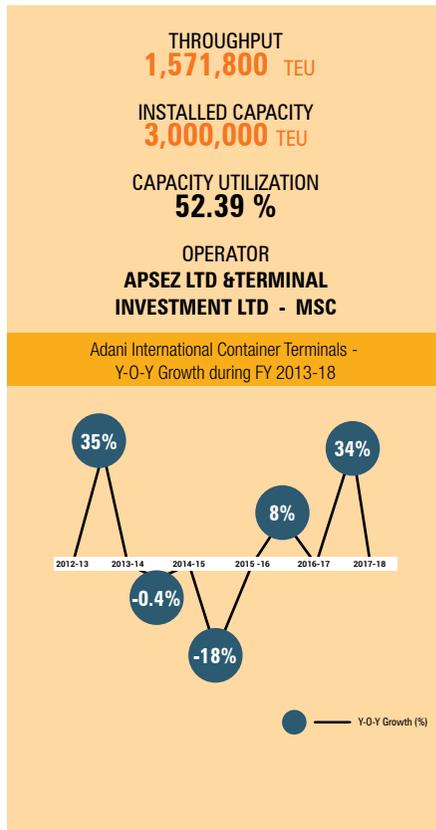
Adani International Container Terminals (AICTPL) is a joint venture with Terminal Investment part of Swiss-based Mediterranean Shipping Company. This terminal is exploring newer markets and strengthening its infrastructure with aggressive expansion to double its capacity in order to serve the increasing demand. AICTPL extension has a quay length of 650 meters and water depth of 17meters. It is also equipped with 6 Quay Cranes, 18 Rubber tyred gantry cranes and 5,653 TGS (Twenty-foot Ground Slots). This terminal doubled its installed capacity from 1.5 million TEUs to 3.1 million TEUs per annum. The rail connectivity is also upgraded by adding 3 rail lines to make total 7 lines operational for the trade. All these expansions position Mundra as the major transshipment hub in the country providing congestion free and cost effective solution.

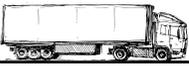
The service and infrastructure upgrades have produced rich

dividends for Mundra, with MSC vastly using its joint venture terminal as a hub for the subcontinent region. The terminal loaded and discharged a total of 10,254 TEU touted as the largest-ever lift on a single sailing at an Indian port when it serviced the MSC Bruxelles. The 337-meter (1,106-foot) Bruxelles has been deployed in MSC's newly launched and independent 'INGWE' service connecting Asia, the Gulf, and Africa. The

weekly service calls Ningbo, Shanghai and Shekou, China; Singapore; Colombo, Sri Lanka; Port Louis, Mauritius; Durban and Coega, South Africa; Salalah, Oman; Jebel Ali, United Arab Emirates; Karachi, Pakistan; Mundra, Nhava Sheva (JNPT) and Hazira, India; Colombo; and back to Ningbo. This new milestone broke the previous record of 8,703 TEU achieved on the MSC Fillippa that called AICTPL in September 2016.

The first container vessel at AICTPL extension was berthed in September 2017 - Container ship SSL KUTCH was alongside the berth for 18 hours and sailed safely on 23rd September after exchanging 1300TEUs, clocking a GCR of 24.35mph.





ADANI CMA MUNDRA TERMINAL

Terminal Address

At & Post Hazira,
Tal. Choriyasi, Surat,
Gujarat 394270

Adani CMA Mundra Terminal (ACMT) is fourth container terminal of Mundra Port and joint venture of Adani Ports and SEZ (Adani Ports) with France-based CMA CGM. This terminal has handled throughput of 0.53 million TEUs in FY 2017-18 with a growth of staggering 92 per cent against previous year volume. The terminal has also registered decent capacity utilization of 66 per cent with sufficient installed capacity available for the trade. This terminal also handled 0.05 million TEUs of transshipment in its total volume handled in FY 2017-18.

APSEZ and CMA CGM will jointly operate this CT-4 at Mundra Port for next 15 years with an option to extend operations twice for 10 more years. CT-4 has a 650 meter quay with a container backup area of 6,503 TGS culminating to a terminal capacity of 1.3 million TEUs per annum. The terminal can handle container vessels with 200,000 dead weight tonnage (about 18,000 TEUs) and also super post and ultra large container vessels.

ACMT offers the following services namely CISC, EPIC 1 service, MIDAS service, MESAWA service,

SWAX service, CPX service, NOUEXP service, CIX service, SMILE F service, CPX service, NOUEXP service, CIX service, IDX service, INDMED service, NISC service, IQX service and also running coastal services called TCI COSTAL, PIX 2 service, WCF service, AIS service and IWCS service.

This terminal is CMA CGM's first Indian port investment, and shows its interest to further increase its terminal portfolio in the fast-developing Indian container market. The terminal's dwell time of containers through train movement in import cycle was 71.70 hrs in April 2018 and it increased further and clocked 116.46 hours in May 2018. The import dwell time of containers through truck movement in April 2018 was 36.19 hrs and 49.58 hrs in May 2018. On the flip side, there has been substantial dip in export dwell time of the terminal.

The terminal dwell time of containers through train movement in export cycle was 118.1 hrs in April 2018 and it decreased to 98.04 hours in May 2018. The export dwell time of containers through truck movement in April 2018 was 118.28 hrs and 90.85 hours in May 2018.

THROUGHPUT
530,742 TEU

INSTALLED CAPACITY
1,300,000 TEU

CAPACITY UTILIZATION
40.83%

OPERATOR
**APSEZ LTD & CMA
CGM SA**



KANDLA INTERNATIONAL CONTAINER TERMINAL

Terminal Address

301-306, Chetna Chambers,
Plot 38, Sec 9, Gandhidham,
Kutch-370201 Gujarat, INDIA.
Tel : +91 2836 227779 / 227010 /
225554

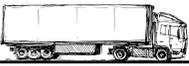
Finally it was an end of many long lasting issues of Kandla container terminal, with commencement of new Kandla International Container Terminals Pvt Ltd (KICT), a Special Purpose Vehicle and a 100% subsidiary of ICTIPL and a unit of Mumbai-based logistics firm JM Baxi Group. This terminal is operating using two existing berths 11& 12. The terminal is envisaged to handle installed capacity of 600,000 TEU of cargo per annum. Since its inception in FY2018, it has witnessed positive cargo throughput. KICT serves as critical gateway port for the western and north western hinterland of India on international trade routes to Middle East and Upper Gulf. The terminal has a draft of 13 metres that can accommodate 65,000-75,000 DWT vessels. With a length of 545 metres, the berths are equipped with 4 rail mounted quay cranes, 8 rubber-tyred gantry cranes, 4 reach stackers and 24 tractor trailers. The terminal has a backup area of 18.74 hectares. The railway siding No 12 is a dedicated railway corridor to the container terminal for attracting rail-borne cargo.

In January, 2018, the first coastal service M.V. SCI Mumbai V386 of Shipping Corporation of India called at Kandla International Container Terminal (KICT). The vessel has loading capacity of 48,000 MT, which gives an opportunity to the trade to utilise vessel space optimally. At 262.07 metres, it was the lengthiest vessel to

call at KICT and Deendayal Port. This is one of the vessels operated by SCI in the SMILE service (SMILE service has SCI & Shreyas Shipping as partners) which has the following port rotation: Kandla - Mundra - Pipavav - Cochin - Tuticorin. This call will be an added advantage to the trade as the service connects south and north India via Kandla International Container Terminal. Kandla International Container Terminal serves cargo generating areas of Morbi, Surendranagar, Rajkot, Rapar, etc. in Gujarat. Besides KICT having its own rail siding inside the terminal, domestic cargo will also get connected to/from all the ICDs.

Container Corporation of India (Concor) run regular or weekly trains between Kandla International Container Terminal (KICT) and its inland container depots (ICDs). Concor has been running trains between its ICD at Jodhpur and KICT carrying boxes meant for coastal movement and also EXIM cargo by covering ICDs of Ludhiana, Tuglakabad, Khodiyar and Khaneji.

KICT has been operational for one year and has its own dedicated rail siding which is a key advantage to the trade for quick movement of cargo, as it is the nearest rail terminal connecting to the Northern hinterlands of India making it "The Gateway of Northern India to the World."



APM TERMINALS PIPAVAV

Terminal Address

Post Uchaiya via Rajula
District Amreli.
Gujarat 365 560. India
T +91 2794 302400

APM Terminals Pipavav is envisaged to handle up to 1.35 million TEUs of containers annually. With increased demand for seafood from South East Asia, the terminal is rapidly upgrading its infrastructure and has a dedicated reefer area consisting of over 500 reefer plugs. This terminal has access to a rich reefer hinterland of approximately 40,000 TEUs annually and is also a major seafood exporter by volume and value.

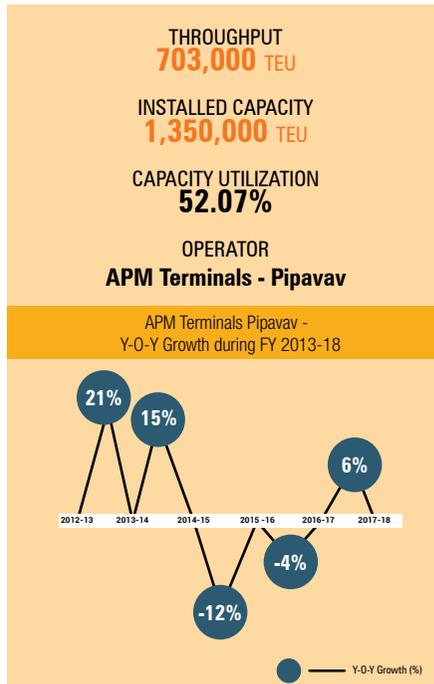
There are three fully functional CFS facilities within the vicinity of this terminal - Logix Park, Contrans Logistics and CWC. These CFS's handle a broad spectrum of cargo generated from Saurashtra central & northern Gujarat, Rajasthan and other parts of northwest India. These include cotton, wood pulp, sesame seeds, cattle feeds, agricultural products, ceramic tiles, soda ash, auto parts, spices, capital goods, scrap, water paper, electronics and others. The port has a dedicated 11,000 sq. mts. of covered custom bonded warehouse space and an area of paved stackyards to handle the CFS operations.

In Q4 FY18, the terminal registered 19 per cent growth compared to the previous quarter on account of new line additions. The terminal registered a record growth rate of 29 per cent in Q4 2018 compared to

the corresponding quarter last year. The container volume for the quarter stood at around 205,000 TEUs. In FY 2017-18, the total containers handled touched 703,000 TEUs.

APM Terminals Pipavav offers 10 weekly mainline services and has the benefit of Maersk's intra-Asia call, named the Far East-Indian Subcontinent Service (FI3), and from a joint call from Cosco Container Lines and Wan Hai Lines under a five-vessel operation, dubbed the C11, on the same trade lane. In addition, Maersk last year introduced a direct call at Pipavav on its Europe-Middle East (ME1) loop. With these additions, and rail service upgrades, APM Terminals Pipavav's volume are soaring high, with January 2018 volume totaling 62,626 TEUs, February 2018, 69,478 TEUs and March 2018, 72,614 TEUs.

APM Terminals Pipavav has set new productivity benchmark by successfully handling the largest container volume during APL Boston port call. A total of 3,636 moves / 5,682 TEUs was safely completed in a record time of 21 hrs 25 minutes surpassing the earlier record of 3207 moves / 4755 TEU in August 2010. Equally important, a new berth productivity (BMPH) record was achieved at 162.20 moves per hour, surpassing the earlier record of 151.93 mph in July 2014. Of the total, consignment, 3,224 TEUs were moved by rail from the port to northern hinterland.





ADANI HAZIRA CONTAINER TERMINAL



Terminal Address

At & Post Hazira,
Tal. Choriyasi, Surat,
Gujarat 394270

Adani Hazira Container Terminal (AHCT) is strategically located in proximity to the Delhi-Mumbai Industrial Corridor (DMIC) on the West coast of India which accounts for a major part of the Indian trade. This terminal has excellent multimodal connectivity to the northern, north-western and central parts of India. Hazira terminal is located in middle of India's biggest chemical manufacturing corridor i.e. south Gujarat (from Vapi to Vadodra). Adani Hazira Port provides a convenient international trade gateway to Europe, Africa, America and the Middle East.

This terminal achieved a new record in October 2017 by registering throughput of 51,466 TEUs which is the highest monthly throughput since start of container operations since April 2013. The terminal has witnessed throughput of 5,00,879 TEUs with a growth of 21 per cent, including 23 per cent growth in imports and 19 per cent growth in exports.

AHCT is equipped with 2 container berths

with quay length of 636 meters with installed capacity to handle 1,000,000 teus per annum. The terminal has ground slots of 3381 teus with 128 reefer plugs. It also has advanced cargo handling equipment of 4 post panamax and 2 super post panamax with 16 rubber tyred gantry cranes.

Presently Shipping Lines like Maersk, MSC, CMA CGM, OOCL, PIL, Simatech, Emirates, UASC, Perma Shipping, Freight Connection, Caravel, Balaji, Trans Asia, IAL are offering weekly service to worldwide destinations from Hazira.

AHCT is well connected to serve as ideal alternative gateway to other major and private ports on Indian west coast. Efficiency of this terminal enables substantial savings in logistic costs and faster turnaround times in the supply chain of the manufacturing and EXIM companies located in the industrial belts. The terminal is also providing specific advantages where shippers and container lines are gaining a competitive edge from its proximity to the industrial belt of South Gujarat.

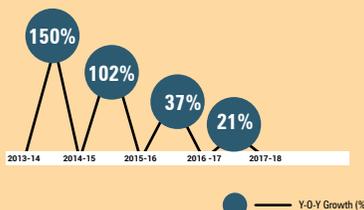
THROUGHPUT
500,879 TEU

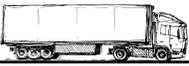
INSTALLED CAPACITY
1,000,000 TEU

CAPACITY UTILIZATION
50.09%

OPERATOR
APSEZ LTD

Adani Hazira Container Terminal -
Y-O-Y Growth during FY 2013-17





NHAVA SHEVA INDIA GATEWAY TERMINAL

Terminal Address

Operation Center, Sheva,
Navi Mumbai- 400707. INDIA
+ 91 22 5590 1234

Nhava Sheva India gateway terminal (NSIGT) also called as DP world Nhava sheva, located next to DP World's flagship terminal Nhava Sheva International Container Terminal. DP World Nhava Sheva handled 0.65 million TEUs in FY 2017-18 when compared to previous year's 0.45 million TEUs, registering an impressive growth of 48.0 per cent in terms of TEUs. Imports of 0.34 million TEUs with a growth of 49.7 per cent in FY 2017-18 were recorded, compared to last year volume of 0.22 million TEUs. Exports registered 0.31 million TEUs raised by 46.2 per cent in FY 2017-18 compared to previous year volume of 0.21 million TEUs. The terminal handled transshipment volume of 8000 TEUs.

The terminal witnessed capacity utilization of 73 per cent in FY 2017-18 which is an ideal capacity utilization for the terminals. In port account, NSIGT Terminal posted average turnaround time of 0.72 days for vessels and average gross crane rate (GCR) afforded by the terminal was an impressive 30 moves per hour, and the highest GCR was achieved in January 2018 at 33.27 moves per hour.

Growth in average output per ship berth day and growth in average crane productivity are 23.0 per cent and 5.0 per cent respectively in FY 2017-18 against FY 2016-17.

The terminal has added new services such as Indamex (India America Express) connecting Indian west coast to United States with East Coast Premium liner service and also IPAK Europe Service with MSC. Additional new service options have increased connectivity to countries like United States, United Kingdom, Netherland, Belgium, Italy, and Oman.

This terminal has achieved a milestone with berthing of the Vessel "MSC Fillippa" under the Himalaya Express (HEX) service between Europe and India, drew a draught of 15.45 m. NSIGT has broken its own record of handling large

size vessels at the port as previous record was standing at 15.2 metres.

NSIGT is an ideal terminal for future port and terminal developments in the country, with several innovations to its credit like Automated Gates powered by Optical Character Recognition (OCR) technology, an advanced Reefer Monitoring System, remote-operated quay cranes, and revolutionary Electrical Rubber-Tyred Gantry Cranes (E-RTGCs), amongst others.

THROUGHPUT
659,000 TEU

INSTALLED CAPACITY
800,000 TEU

CAPACITY UTILIZATION
82.38 %

OPERATOR
DP WORLD



NHAVA SHEVA INTERNATIONAL CONTAINER TERMINAL PVT LTD

Terminal Address

Operation Center, Sheva,
Navi Mumbai- 400707. INDIA
+91 22 5590 1234

DP World's, Nhava Sheva International Container Terminal (NSICT), handled 0.64 million TEUs in FY 2017-18, while reporting a negative 11.9 per cent compared to previous year with 0.72 million TEUs. Out of the total traffic of JNPT's 4.80 million TEU, NSICT contributed a share of 13.26 per cent. There has been a substantial slump over the years in volume since FY 2014-15 after addition of new terminal NSIGT owned and operated by DP world.

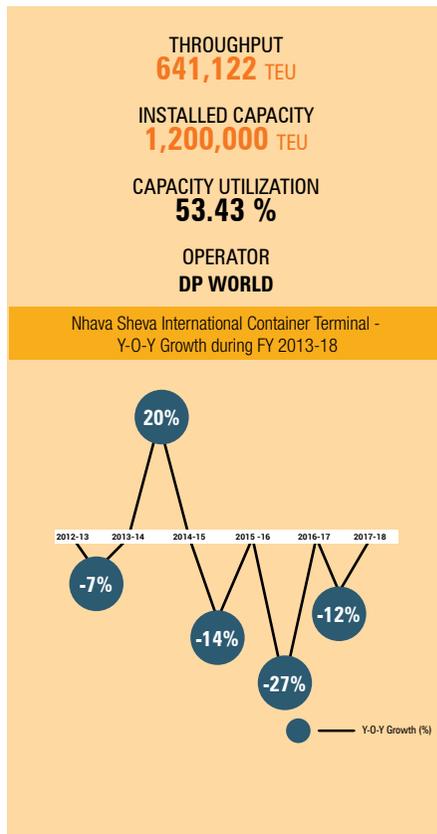
Import volume of the terminal recorded 0.25 million TEUs with negative growth of 19.7 per cent in FY 2017-18, compared to previous year volume of 0.31 million TEUs. Terminal's exports also posted negative growth of 5.7 per cent in FY 2017-18 at 0.38 million TEUs, compared to last year volume of 0.4 million TEUs.

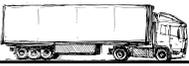
DP World's strategic operational realignment at JNPT is implemented in order to sidestep long-running royalty payment and tariff issues plaguing its flagship NSICT. The fact that NSICT's

volume declined from 1.51 million TEUs in fiscal 2010-2011 to 0.64 million TEUs in 2017-2018 and that NSIGT's 2017-2018 volume jumped 48 per cent year over year to 659,400 TEU illustrates the impact of that commercial adjustment. The royalty payable by NSICT to JNPT has increased from Rs.47 per TEU in FY2000 to Rs.3,214 per TEU in FY2018. From the next year onwards, the royalty payable will be more than what it is allowed to charge customers. With low rates and rising

royalty, NSICT has become unviable. And the best course open is to handle only the minimum volume of 600,000 TEUs mandated by the contract, from the point of view of minimising losses, without running into default. This explains why DP World is propping up NSIGT at the expense of NSICT.

NSICT is offering new weekly call from APL's Asia Subcontinent Express 3 (AS3) Service in the India-China trade. The expanded AS3 rotation covering Shanghai, Ningbo, and Xiamen, China; Singapore; Nhava Sheva (JNPT), India; Karachi, Pakistan; and Shanghai began with APL Japan. With the launch of APL's AS3 service, NSICT strengthened its connectivity to the major manufacturing hubs of South and Central Asia.





JAWAHARLAL NEHRU PORT CONTAINER TERMINAL

Terminal Address

Jawaharlal Nehru Port Trust
1107, Raheja Centre, FPJ Marg,
Nariman Point, Mumbai – 400021.

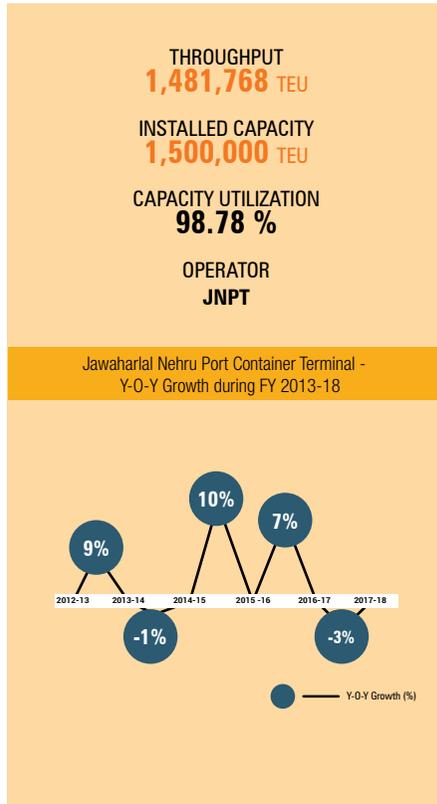
Jawaharlal Nehru Port Container Terminal (JNPCT), owned and operated by Jawaharlal Nehru Port Authority, handled 1.48 million TEUs in FY 2017-18 compared to previous year volume of 1.53 million TEUs and registered negative growth of 4 per cent. Out of the total traffic of JNPCT's 4.8 million TEUs, JNPCT captured 30.66 per cent of share. The terminal's import volume handled is 0.72 million TEUs with a slump of 4.4 per cent in FY 2017-18 compared to previous year volume of 0.76 million TEUs. Exports touched 0.71 million TEUs at -3.5 per cent growth in FY 2017-18, compared to previous year throughput of 0.74 million TEUs.

This terminal has increased direct port delivery (DPD) volume to 41.5 per cent at JNPCT in order to decongest the port with fast evacuation of cargo to the destinations. ICD Traffic handled in JNPCT is a total of 1,53,560 TEUs and 1,384 rakes were handled during the year 2017-18, as against 1,70,633 TEUs and 1,412 rakes in the previous year, showing a decline in rail traffic

by 10.01%. Imports declined by 12.88 per cent and exports recorded a dip of 5.3 per cent. Average parcel size of container vessel in JNPCT is 3,532 TEUs, an increase by 8.61% in FY2017-18. JNPCT has received many accolades in recent past for reducing the dwell time and efficient movement of traffic, resulting in significant savings in terms of cost and time for the EXIM community.

The terminal's dwell time of containers through train movement in import cycle was 62.68 hrs in April 2018 and it increased further and clocked 77.98 hours in May 2018. The import dwell time of containers through truck movement in April 2018 was 30.7 hrs and 50.80 hours in May 2018. On the flip side, there has been substantial dip in export dwell time of the terminal.

The terminal's dwell time of containers through train movement in export cycle was 136.35 hrs in April 2018 and it decreased to 127.77 hours in May 2018. The export dwell time of containers through truck movement in April 2018 was 76.61 hrs and 82.81 hours in May 2018.





APM TERMINALS MUMBAI

Terminal Address

GTI House, JNPT, Sheva, Navi Mumbai, Taluka - Uran, District Raigad, Maharashtra - 400 707, India. Tel :+ 91 22 6681 1000

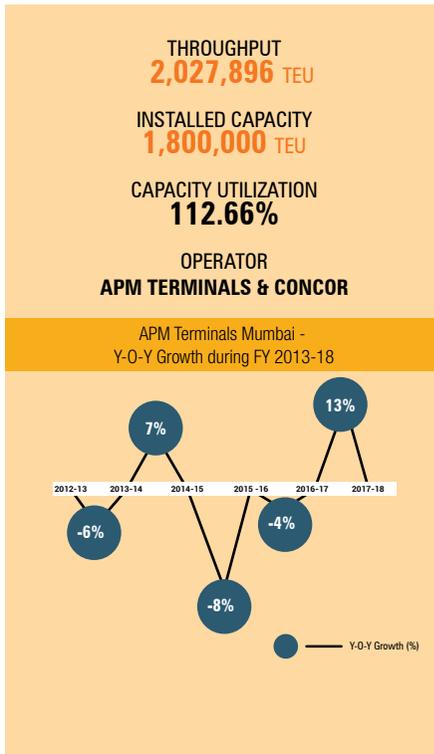
APM Terminals Mumbai is the largest container terminal by throughput in India as per throughput handled in FY 2017-18. APM Terminals Mumbai (GTI) is a Joint Venture company of APM Terminals and the Container Corporation of India (CONCOR) in a 74 per cent and 26 per cent partnership, respectively. This terminal handled 2.02 million TEUs in FY 2017-18 surpassing previous year volume of 1.79 million TEUs while registering 13.13 per cent year-on-year growth. Import volume is 1.08 million TEUs increased by 14.8 per cent in FY 2017-18 compared to previous year volume of 0.94 million TEUs. Export volume is 0.94 million TEUs with 11.6 per cent growth in FY 2017-18 compared to previous year volume of 0.84 million TEUs. The terminal handled highest transshipment volume of 13,777 TEUs in JNPT, along with Coastal volume of 4992 TEUs.

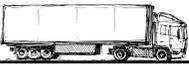
In port account, the terminal recorded average turnaround time of 1.10 days,

average pre-berthing detention time is 2.4 hours and average output per ship berth day is 39500.41 tonnes. GTI registered negative growth of 0.34 per cent in average output per ship berth day and negative average crane productivity of 0.60 percent.

The terminal has added new services such as INDIAMED (linking the East Mediterranean with

Djibouti, Arabian Gulf, Pakistan and India) and also CWI (North China-West India). In order to tackle frequent road congestion outside the terminal gates, APM Terminals Mumbai pioneered a new value-added service titled Vehicle Booking System (VBS), the service entails the terminal allocating fixed time slots to each Container Freight Station (CFS) every day whereby the CFS is encouraged to collect its consignment during the time allocated with a green channel for entry of its TT and dedicated equipment allocated in the yard for quick turn-around. Piloted by APM Terminals Mumbai, initially in November 2017, VBS has helped the terminal improve efficiency and overall truck turn-around by 18%.





BHARAT MUMBAI CONTAINER TERMINAL

Terminal Address

Windsor, Building, Off CST Road
Sunder Nagar Rd, Vidya Nagari
Kalina, Santacruz East
Mumbai - 400098
Maharashtra

Adding another feather to the cap of JNPT, Bharat Mumbai Container Terminals (BMCT), owned and operated by PSA international has commenced its operations in February 2018. The terminal is equipped with advanced technology to offer fast turnaround of vessels. BMCT is also well-connected by and rail networks to major trading markets in Maharashtra, Gujarat, and the National Capital Region of India. It serves key industrial and manufacturing centres and cities in Northwest India.

BMCT's Phase 1 consists of quay length of 1000 metres, 90-hectare storage yard with 9,336 ground slots, 12 quay cranes, 4 rail-mounted gantry cranes, 36 rubber-tire gantry cranes, 324 reefer slots, and a capacity of 2.4 million TEU per year and the deepest berths at JNPT, capable of handling super post-panamax vessels.

This terminal has handled volume of 0.023 Million TEUs including 11,319 TEUs of imports and 11,468 TEUs of exports. The total volume handled at the terminal contributes 0.48 per cent to the overall total throughput of JNPT in its first year of operations in FY 2017-18.

BMCT's rail yard is equipped with four twin lift-capable Rail

Mounted Gantry (RMG) cranes serving three lines. It will be the only terminal in JNPT capable of handling 1.5 km-long, 360-TEU Dedicated Freight Corridor ("DFC") trains when the DFC is completed.

This terminal is improving connectivity and ease of doing business for JNPT users with its high train volumes. Containers for other JNPT terminals arriving by rail at BMCT will be trucked less than 4 km via JNPT's South Gate, to connect with export vessels berthed at those terminals.

Under JNPT umbrella all terminals need to bind with rate regime set by the Tariff Authority for Major Ports (TAMP). BMCT is also contractually mandated to share 35.79 per cent of its annual revenue with JNPT.

BMCT currently hosts two weekly services the Swahili Express (SWAX) jointly operated by CMA CGM and Emirates Shipping Line in the India-Africa trade, and the Europe-Pakistan-India Consortium 2 (EPIC2) under a vessel-sharing agreement among Hapag-Lloyd, CMA CGM, and Hamburg Süd.

Nevertheless, BMCT will be a game changer for India's port and logistics market given its unprecedented size, scale and dedicated infrastructural links and in particular its capabilities in handling trains from the Dedicated Freight Corridor.

THROUGHPUT
23,212 TEU

INSTALLED CAPACITY
2,400,000 TEU

CAPACITY UTILIZATION
09.97%

OPERATOR
PSA INTERNATIONAL



VALLARPADAM INTERNATIONAL CONTAINER TRANSshipment TERMINAL (ICTT)

Terminal Address

Willingdon Island,
N.End, Cochin -682009
Kerala

Vallarpadam International Container Transshipment Terminal (ICTT) also called as DP world Cochin is operated by DP World Cochin. India's only operational dedicated transshipment terminal at Cochin Port, registered 514,997 TEUs in FY 2017-18 with a growth of 12.6 per cent year-on-year when compared with previous year volume. Imports registered 14 per cent growth and exports registered 11 per cent growth in FY 2017-18 against FY 2016-17. Despite progressive growth year on year since its inception, ICTT is unable to reach the expected volume of transshipment as it handled only 7 per cent of transshipment cargo, in contrary coastal volume is around 0.2 Million TEUs which is one of the highest coastal volumes handled. The terminal's ambitious expansion programs will act as a catalyst for improving throughput in the emerging market economy.

ICTT recorded highest growth rate in FY 2017-18, among all container terminals at major ports in the country. Moreover, this occurred despite continued global demand challenges and ever-growing overcapacity issues on India's east coast. In addition, the terminal handled a monthly high of 52,000 TEU in March 2018, breaking its previous record of 51,000 TEU set in October 2017. Further, it achieved an impressive 19 per cent

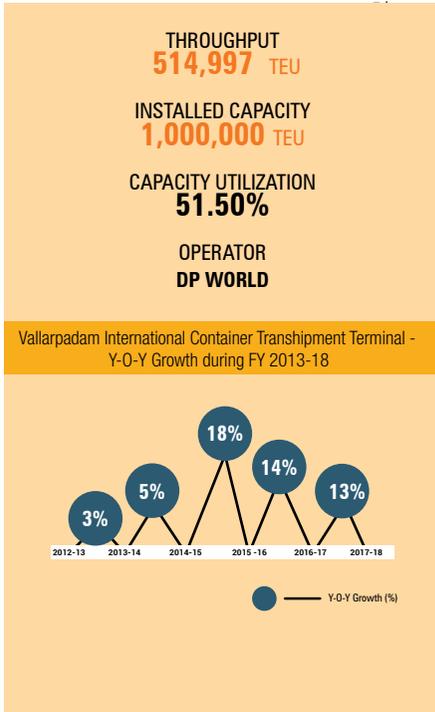
increase in the January-to-March quarter of 2018, compared with the same period in 2017.

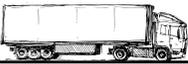
DP World Cochin witnessed industry-best productivity rates, improved feeder connectivity, and extended hinterland rail reach. Average parcel size of the terminal increased to 23% in FY 2017-18. The terminal continues to maintain the best crane productivity of more than 30 moves per hour from FY 2015-16 onwards.

With the continued terminal expansions and growth, following services are upgrading to meet the market demand:

- Direct weekly Europe service (NEMO Service) of CMA CGM/Hapag enhanced vessel capacity to 6,700 Teus from 5,500 Teus.
 - NEMO added 2 ports to enhance the connectivity, London Gateway (UK) & (Greece added to NEMO Service).
- Direct weekly MiddleEast service (CCG) of Simatech/ Evergreen enhanced vessel capacity to 4000 Teus from 2000 Teus and added Krishnapatanam Port to the service. This service offers connectivity from Chennai, Vizag and Krishnapatanam to Cochin.

ICTT has improved connectivity with a dedicated 4-lane highway to the major hinterland locations. It also possesses direct rail connectivity to major industrial clusters for easy movement of cargo.





PSA SICAL - TUTICORIN CONTAINER TERMINAL

Terminal Address

Tuticorin Container Terminal Building, Berth No 7, Harbour Estate, Thoothukudi Tamil Nadu - 628004

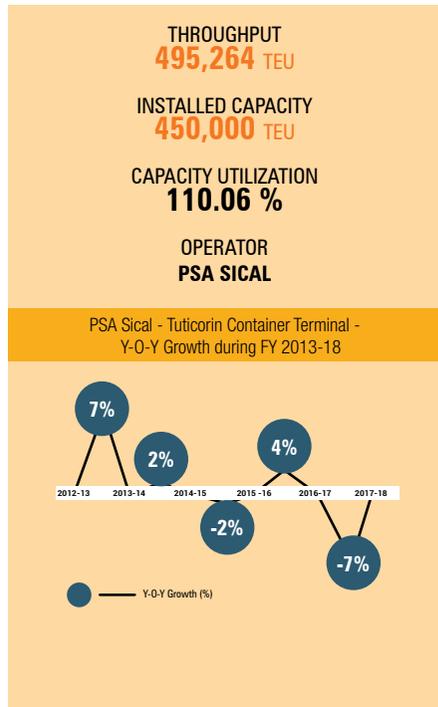
PSA International's another investment on southern tip of Tamil Nadu is Tuticorin Container Terminal (TCT), which is a joint venture between PSA International and SICAL Logistics. PSA-Sical Terminals, the entity that runs the container terminal at VOC Port Trust since 1999, is 62.5 per cent owned by PSA International, a unit of Temasek Holdings, the sovereign wealth fund of Singapore. PSA Sical Container Terminal has consistently recorded steady growth till FY 2014-15. After commencement of another terminal in the port, TCT has shown a dip in growth. The terminal has recorded a negative growth of 7 per cent in FY 2017-18 with volume of 4,95,264 TEUs as compared to previous year volume of 5,33,049 TEUs.

Similar to the differences that private operators have with major port authorities on rate regime and tariff issues, PSA SICAL Tuticorin is also facing

the same issues looking for viable resolution. PSA demands that port operators should be allowed to terminals which are running under varied rate regimes to come under the latest rate structure announced in 2013. PSA also suggests that all terminals should follow the 2013 rate regime not just for profitability but for sustainability.

TCT has been serving major textile industry of this region and it is also well connected by road

and rail to all the major industries. In addition, train services from Bangalore, Chennai and Kochi connects the terminal. TCT has modern container handling equipment and operating systems to deliver fast, flexible and reliable services to the inland transportation and shipping lines. The terminal is well connected with twelve container freight stations and an ICD unit to serve the trade. PSA Sical is serving ever growing trade region across Europe-Far East trade route.





DAKSHIN BHARAT GATEWAY TERMINALS

Terminal Address

Berth No: 8, V.O.C Port Trust,
Tuticorin Container Terminal Rd, Harbour
Estate, Muttayapuram, Tamil Nadu 628004

VO Chidambaranar Port's second container terminal, Dakshin Bharat Gateway Terminal Pvt. Ltd (DBGT), features 3 Rail Mounted Quay Cranes, 9 Rubber Tyred Gantry Cranes, etc. The project has been commissioned at an investment of Rs 312.23 crore and the PPP operator, Dakshin Bharat Gateway Terminal, offers a revenue share of 55.19 per cent to the port. The overall length of the berth is 345 metres and the maximum draught is 13 metres. The terminal has the capacity to handle 6 lakh TEUs per annum.

Dakshin Bharat Gateway Terminals (DBGT) has witnessed a whopping growth of 83% in FY 2017-18 while registering volume of 2,01,093 TEUs compared with 1,10,173 TEUs in throughput in FY 2016-17.

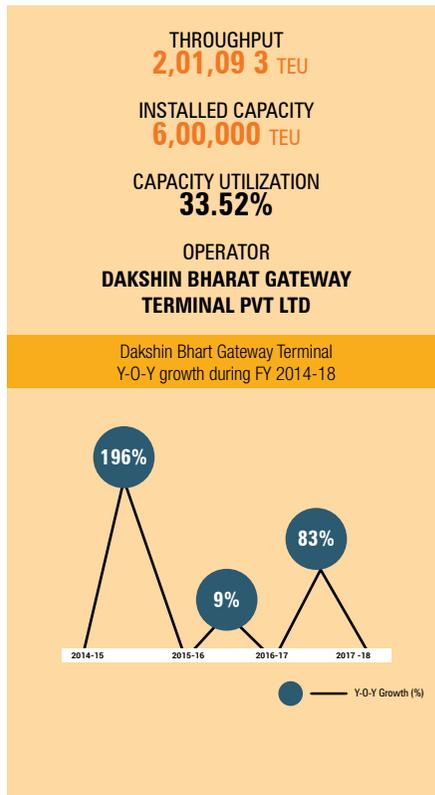
DBGT consists of a special storage facility for handling raw cotton. This facility is likely to accommodate around 500 TEUs of 40 foot containers and has been planned in the custom bonded area of Dakshin Bharat Gateway Container Terminal. The raw cotton can be

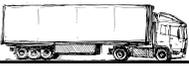
stocked for a period of 30 days at free of cost. The Customs has also issued the necessary guidelines for handling imported raw cotton and storage in the facility.

Vessels with over all length of 230 metres and container carrying capacity of 2,500 TEUs call at this port. The humble start of this trial run with container carrying capacity of 4,395 TEUs and over all length of 262 metres would pave way for attracting more International and coastal volumes

and would also induce the main line operators offering services from Far East, Red Sea and East Africa to call this terminal. These services would be the game changer in container business in this part of the country creating new opportunities and delivering cost efficient services to customers.

Dakshin Bharat Gateway Terminals offers PIX 2 service where Shipping Corporation of India deployed "SCI Mumbai" Container Vessel with overall length of 262 metres and capacity of 4,395 TEUs. The vessel SCI Mumbai is one of the vessels in the PIX 2 service, calling Tuticorin at a frequency of 28 days and its rotation is Tuticorin - Cochin - Jebel Ali - Mundra- Krishnapatnam - Kattupalli - Tuticorin.





CHENNAI INTERNATIONAL TERMINALS PVT LTD (CITPL)

Terminal Address

Regus Citi Centre Level 6, Chennai Citi Centre, 10/11,
|Dr. Radhakrishnan Salai,
Chennai - 600 004, INDIA
+91 44 25613000

Chennai International Terminals Pvt Ltd (CITPL) is a subsidiary of PSA International, one of the leading global port groups. Since its inception in 2009, CITPL has handled cumulative 5.75 million twenty-foot equivalent units ("TEUs") till July 2018 and achieved its highest annual throughput of 9,04,609 TEUs in 2017. The terminal has handled 9,01,584 TEUs in FY 2017-18 with 7% y-o-y growth, compared to previous year volume of 8,44,694 TEUs in FY 2016-17

With a quay length of 832M, the terminal can accommodate 3 vessels alongside. This unique quay design facing west, away from the Bay of Bengal enables CITPL to ensure hassle free vessel operations in all conditions. CITPL is growing steadily in Chennai region which is aiming to position as leading container terminal on Indian East Coast. Shipping services at the terminal are currently connected to key global markets as well as other Indian ports including Andaman / Nicobar islands through coastal services. The terminal's connectivity to Inland Container Depot (ICD) is enhanced by its own dedicated rail terminal which reduces transit time.

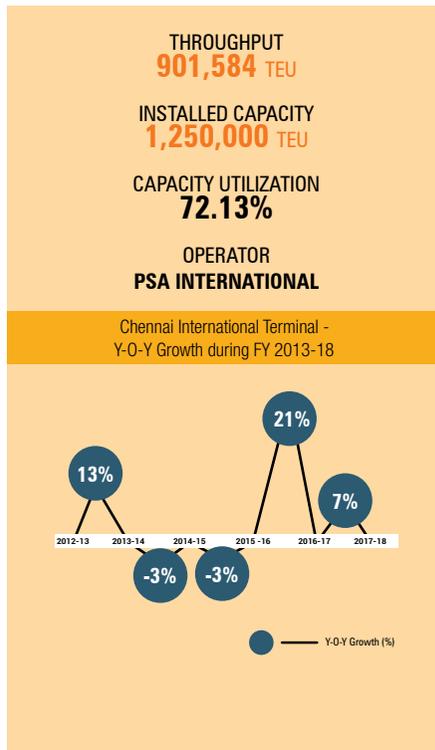
This terminal is close to many key manufacturing, industrial and economic zonal development centres. The Terminal serves numerous container corridors for South India states like Tamil Nadu, Karnataka, Andhra Pradesh and Pondicherry. CITPL also houses the automobile manufacturing giants in the country.

CITPL is well connected with the railway network. At present, the Port and Terminal is linked to Southern Railway network via Madras Beach Railway that connects Chennai Port Station to other key hinterland locations of Tamil Nadu, the Southern Railway Trunk line to Kolkata, New Delhi, Bangalore etc. Container Corporation of India (CONCOR) runs regular container train services

(20 rakes per week) between Chennai Port and Bangalore. CITPL is connected to CONCOR Tondiarpet (Chennai) ICD/CFS by rail.

National Highways that converge and run through the city, viz., the NH-4, NH-5 & NH-45 connects the port to Inland Container Depots like ICD Tondiarpet (10kms), ICD Irungattukottai (35Kms), ICD Whitefield / Bangalore (345Kms) and beyond.

There are 30+ CFS's (Container Freight Station) and 5 ICD's (Inland Container Depot) connected to Chennai Port by these National highways, making it well connected to industrial clusters.





CHENNAI CONTAINER TERMINAL



Terminal Address

Chennai Port Trust Administrative Building, Ground Floor, 1 Rajaji Salai, Chennai, Tamil Nadu-600001

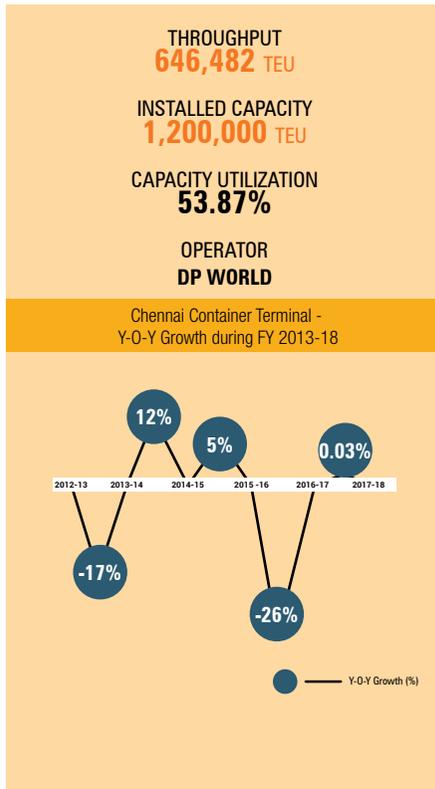
DP World's major container terminal investment on Indian east coast - Chennai Container terminal (CCT) has witnessed stagnated growth in the FY 2017-18 against previous year volume handled. CCT has registered a growth of paltry 0.03% in FY 2017-18 against total volume handled in FY 2016-17. Total throughput handled by CCT in FY 2017-18 is 646,482 TEUs against 646,319 TEUs in FY 2016-17. Capacity utilization of this terminal is 54 Per cent in FY 2017-18. In present scenario, Chennai port and its terminals are facing tough competition from new privately operated container terminals.

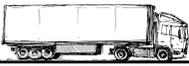
This terminal is also supporting coastal container movement of cargo which ran a trial service between Chennai and Puducherry port by ship Chowgule-8. Puducherry port is

being dredged and on completion, there would be a regular service between Chennai and Puducherry. This service has the potential to handle nearly 2,000 TEUs a month and will also help in reducing road congestion.

The road network inside the port is being augmented through widening of existing roads to ease congestion and provide smooth flow of traffic. Further, with focus on evacuation of containers, a dedicated corridor is proposed through the port under the Sagarmala Programme.

The work on development of a common railway yard has been completed and can receive full length rakes. In addition, in order to avoid overloading of rakes and punitive charges, Chennai Port has installed an In-motion Rail Weigh Bridge to facilitate weighing of wagons. This facility will also improve Port Railway Systems and add to efficient evacuation of rail bound cargo.





KATTUPALLI INTERNATIONAL CONTAINER TERMINAL

Terminal Address

Kattupalli Village,
Ponneri Taluk, Tiruvallur District,
Chennai – 600120, Tamil Nadu, India.
Phone: 044-27968400

Kattupalli International Container Terminal has many advantages with its unique location of 30 kilometers towards north of Chennai and has connectivity with hinterland of North Tamil Nadu, Chennai, Bengaluru region and South Andhra Pradesh locations which are highly industrialised.

The terminal is equipped with 5,120 ground slots with installed capacity of 1.2 Million TEUs per annum. KICT consists of two berths with quay length of 710 meters with advanced cargo handling equipment of 6 Quay cranes, 15 RTG cranes, 2 no's weigh bridge. The terminal is well connected to its hinterland by 4 major roads, NH 5 Kolkata to Chennai, NH 4 Bangalore to Chennai, NH 45 Southern ports of Tamil Nadu to Chennai and NH 205 Thiruvallur to Chennai.

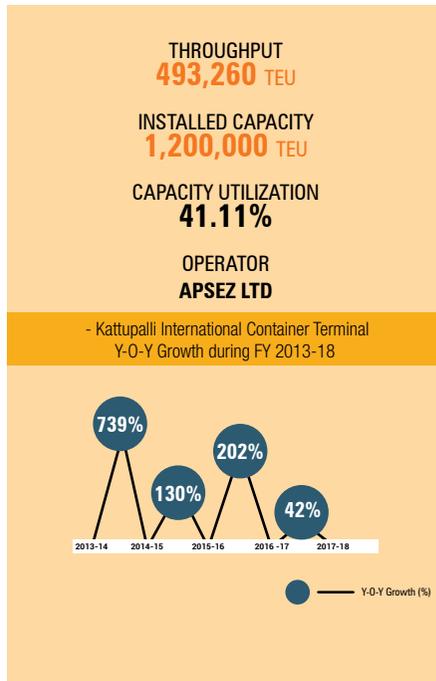
Since its inception, the terminal has been witnessing year-on-year progressive growth in throughput with 4,90,291 TEUs in FY 2017-18 by clocking 42 per cent growth. The terminal

achieved 3,48,000 TEUs in FY 2016-17 as against 1,15,227 TEUs in FY 2015-16 which is a 205% growth. The transshipment volume is paltry and the plans are afoot to improve transshipment cargo post cabotage relaxation. Total coastal container volume handled in FY 2017-18 is 52,548 TEUs, even the government is keen in pushing coastal shipping.

The terminal has recorded spurt in performance and operational efficiency which contributed highly towards achieving high year-on-year growth.

The average truck turnaround time from entry to exiting the terminal is 70 minutes and average vessel turnaround time is recorded at 0.81 days. Growth in Average output per ship berth day is 30 per cent in FY2017-18 over FY 2016-17 and growth in average crane productivity is 2 per cent in FY2017-18 over FY 2016-17. This pace in services is expected to continue in the months ahead.

This terminal added more mainline services, including a five-vessel, intra-Asia loop C13 under a consortium between Wan Hai Lines, Cosco Container Lines, IAL, OOCL and X-Press Feeders.





KRISHNAPATNAM PORT CONTAINER TERMINAL

Terminal Address

P.O. Bag No. 1, Muthukur,
Dist. Nellore - 524 344,
Andhra Pradesh, India.
Tel: +91 861 2377 999
/ +91 970 4123 987 / 989

It is no more just a gateway on the east coast of India as it notched unprecedented heights in touching high transshipment volume on Indian oceans to become a leading transshipment hub on east coast of India. KPCT is leading from the front in improving Indian transshipment volumes to pull back lost glory of Indian transshipment cargo from foreign ports. KPCT handled around 2,12,466 TEUs of transshipment cargo which is 44 per cent of total cargo 4,79,552 TEUs handled in FY 2017-18. This terminal has recorded a staggering growth of 88 per cent in FY 2017-18 years-on-year against FY 2016-17.

During last five years since its inception in 2013, this terminal witnessed many key achievements in surpassing the old statistics and has shown the trade how private terminals can progress exponentially in building the advanced infrastructure and improvement in connectivity to serve ever demanding trade.

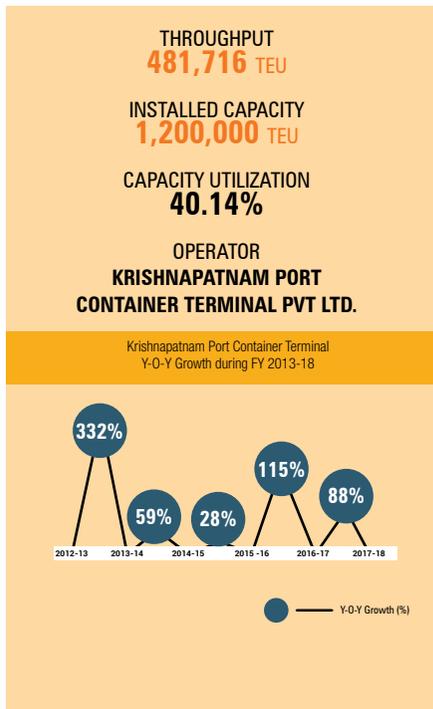
Krishnapatnam terminal currently consist of two berths of 650 meters quay, 36 hectares yard area, 4,600 ground slots, 16.5 meter draft with an installed capacity of 1.2 million TEUs per annum.

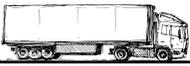
Equipped with latest technology, hardware infrastructure, upgraded IT systems, the terminal aims to handle cargo more efficiently and effectively. KPCT also handled 19,518 of coastal volume in FY 2017-18. The terminal boasts average crane moves of 33 per hour with year-on-year growth clocked around 15%.

Introduction of "drive-through-container-scanning" service for customs examinations ease the custom clearances at the terminal. Further, the company recently introduced a self-sealing service for factory-stuffed exports with radio-frequency identification tags (RFID) and secured special government approval for scrap import handling, as waste imports into India rapidly rise.

With government's push towards solar energy, the terminal has also registered a sharp rise in solar cargo movement. It has moved 13,084 FEUs of solar cargo in FY 2017-18.

With excellent rail connectivity in the states like Telengana and Bangalore the new connectivity from Nagpur, Maharashtra offers additional augmentation in shipments. The terminal also supports DPD, reducing dwell time and 70 per cent of its total laden import cargo during FY 2017-18 moved through DPD.





PSA KAKINADA CONTAINER TERMINAL

Terminal Address

2nd Floor, South Wing
Port Administrative Building
Beach Road, Kakinada – 533007
A.P. India
Telephone:
Office + 91-884-6601111, 2365889
Docks + 91-884-6601000, 2368246

Kakinada Container Terminal Private Limited (KCTPL) is a joint venture, with equal shareholdings between Kakinada Infrastructure Holdings, Singapore-based PSA Group, and Bothra Shipping Services in the Kakinada Deep Water Port, Andhra Pradesh. KCT is located near to the cargo origination centers that makes it a preferred choice for the shippers to achieve efficiency in transportation cost and time.

The port is ideally located near Amaravathi, the new capital city of Andhra Pradesh and also close to the landlocked state of Telangana which can potentially generate substantial cargo volume for the port. KCT is located in East India's agricultural & commodity hinterland which exports containerisable products like rice, sugar, maize, seafood and paper products. Many leading agricultural companies have setup their processing center in the region. KCT has nine on-dock rail sidings capable of handling 2 rakes simultaneously.

Since its inception the terminal has improved in its sea routes and services with strategic agreements with prominent shipping lines. Maersk is running

an import service to Kakinada, Far Shipping is calling on weekly service to Colombo, Orient Express Lines Singapore (OEL) is calling directly to Yangon on demand basis. Shreyas Shipping is running a service to Cochin to carry the rice cargo as part of promoting coastal business. Earlier it carried only FCI's rice cargo and now it also carries other private parties cargo. The plans are afoot to bring clay and tiles from Gujarat to East and West Godavari via coastal shipping. TCI Seaways is offering service to Port Blair for Food Corporation of India to carry rice and wheat. Big players like ITC and APPM are looking forward to start their import and export through Kakinada.

KCT has almost doubled its throughput to 21,338 TEUs in FY 2017-18 compared with 13,674 TEUs in FY 2016-17. While imports laden touched 10,346 TEUs, exports laden were 10,548 TEUs in FY 2017-18 with registered less EXIM volume deficit.

Despite higher ocean freight comparatively at Kakinada, the EXIM rice and aquaculture products i.e shrimps volume considerably increased. Once import laden get spurt, the shipping lines can offer competitive freight at Kakinada, which will definitely drive to increase further volume growth across other cargo types.

THROUGHPUT
21,338 TEU

INSTALLED CAPACITY
100,000 TEU

CAPACITY UTILIZATION
21.34%

OPERATOR
**KAKINADA INFRASTRUCTURE
HOLDINGS PSA GROUP &
BOTHRA SHIPPING SERVICES.**



VISAKHA CONTAINER TERMINAL

Terminal Address

Opposite Town Hall,
Beach Road, Beside Fishing Harbour, Port Area,
Visakhapatnam,
Andhra Pradesh 530001

Visakha Container Terminal (VCT) has achieved various milestones over the years displaying continuous growth trend. As the volumes are increasing, the need for infrastructure upgrade triggered. The terminal went ahead with additional infrastructure and procured 2 Post Panamax Rail Mounted Quay Cranes (RMQCs) along with 4 Rubber-Tyred Gantry Cranes (RTGS) to improve the current efficient and effective operations. VCT is one of the few organisations with certified management systems for ISO 9001:2015, ISO 14001:2015, OHSAS 18001:2007, ISO 28000:2007, ISO/IEC 27001:2013.

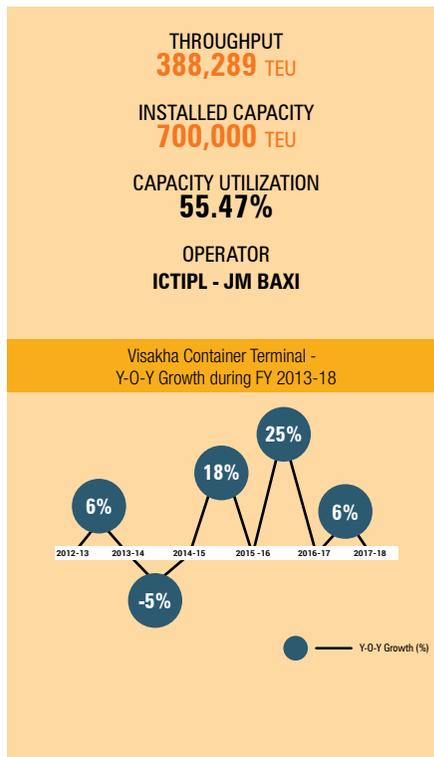
Achieving a 22.9% CAGR since inception, the terminal handled 3,88,289 TEUs in the period 2017-2018 (6% growth). Local cargo grew by 16%, rail bound movement by 6% and laden by 15% over 2016-17. Infrastructural facilities more than doubled, with investments in new cranes, stacking area, information technology, safety, security and environmental pursuits. The reefer growth at VCT has been quite impressive with YoY rate of 26%, where the terminal went ahead in upgrading the infrastructure of reefer plug points from 244 to 366 to meet the customers' requirement. The trend is continuing and is

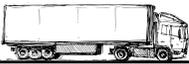
expected to reach a growth rate of 30% this year.

There has been a drop in transshipment because of commercial advantage seen by the shipping lines where the volumes were lost to competition. This trend is more likely to continue for few more months. However, with the cabotage relaxation coming into play allowing the foreign flagged vessels to ply between two Indian ports, will open doors for VCT to establish itself as a transshipment hub on the east coast of India. In FY 17 the transshipment share at VCT was 5% which dropped to 1% during FY18 and in FY19 it is estimated to be about 5% to 6%.

Vessel and Yard Management has been impressive too as mentioned below:

- VCT has one of the best vessel turnaround time – 17 hours average.
- Average Pre- Berthing time of the vessel is less than 1.9 hours, including time from arriving at pilot station to coming alongside.
- Crane Productivity averages 24 moves per hour
- Average Truck Turnaround Time – 35 Minutes (i.e. Entry to Exit)
- The improvised IT infrastructure plays a pivotal role in faster cargo evacuation. While the E-Form 13 has simplified the movement of export cargo in the terminal, making it paperless in transactions and seamless movement.





BHARAT KOLKATA CONTAINER TERMINAL

Terminal Address

Bharat Kolkata Container Terminals Pvt. Ltd.,
6A Middleton Street,
8th Floor, Chhabildas Tower, Kolkata 700071
Telephone : (033) 40373800

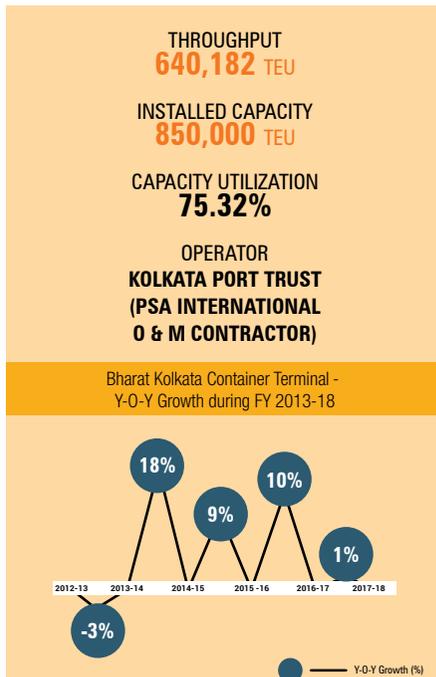
PSA's Bharat Kolkata Container Terminal has registered container throughput of 6,40,182 TEUs in FY 2017-18, surpassing previous volume of 6,35,848 TEUs in FY 2016-17. Competition from the Vizag port is intensifying and so BKCT is taking key measures to woo Nepalese importers by improving transparency, reducing the turnaround time and ironing out procedural hassles. This terminal is situated at a distance of 704 kilometres from Nepal's only rail-linked Inland Clearance Depot, Birgunj. BKCT is nearest container terminal to Nepal by distance as even Haldia is also located around 100 km faraway from Nepal compared to BKCT.

Setting up a container freight station dedicated to the Nepalese customers is also under active consideration in facilitating the trade. Vizag is located 1,400 km from Birgunj in Nepal, which is twice the distance from Kolkata. India opened the Vizag port to Nepalese users in March 2017. Beginning June 2017, when the first container train rolled out from Vizag, the port has handled nearly 5,000 boxes (TEUs) imported by Nepalese buyers.

Now, three container trains leave Vizag for Birgunj every week, carrying 1,000 boxes a month. The gain to Vizag is the potential loss to Kolkata, which recorded 3-4 per cent growth in container handling to 75,000 boxes in 2017-18.

The port is keen on Bangladeshi proposal for third country access through Kolkata port terminal as a part of the initiative to shift the bilateral trade from road to inland water. Considering Bangladesh's low share of exports in the \$7.5-billion bilateral trade, the lack of return cargo is a major hurdle in making inland water transport cost effective. To overcome this problem, shipping lines are keen to have a share of Bangladesh's third country exports as return cargo. Current trade between Kolkata port and Bangladeshi ports and terminals via the coastal route is limited to bilateral trade, and is not open to third-nation, export-import trade.

Certain shipping lines have shown interest that if EXIM trade is allowed from Pangaon terminal of Bangladesh then containers going to European countries having garments and other white goods which have strict timelines to maintain, can be routed through Kolkata container terminal.





HALDIA INTERNATIONAL CONTAINER TERMINAL

Terminal Address

Old P & T Building,
Chiranjibpur Camp,
Dock Zone, Haldia - 721604.
West Bengal, INDIA
+ 91 03224 - 251014/ 17

The Haldia Container Terminal is operated and maintained by Haldia International Container Terminal Ltd (HICT) a 100% subsidiary of International Cargo Terminals and Infrastructure Private Ltd. HICT terminal has a quay length of 432 meters and equipped with efficient cargo handling equipments. The terminal has available ground slots of 1,436 TEUs with 3 / 4 high stacking facility. This terminal achieved throughput of 1,56,028 TEUs in FY 2017-18 with a progressive growth of 14.87% over 1,35,828 TEUs in FY 2016-17.

HICT has achieved another milestone with the commencement of a new Bangladesh service from Haldia In February, 2018 under the Indo-Bangladesh Coastal Protocol. Located 90 km from Kolkata, the Petrapole-Benapole border handled \$3.4 billion (Rs22,000 crore) of the \$6 billion bilateral trade with Bangladesh. In 2016-17, Indian exports accounted for more than 70 per cent of the trade through this gate.

However, due to the slow pace of border clearance, a truck normally takes 22

days, including two weeks on the Indian side, to complete its trade run. The Bangladesh trade was eagerly seeking an alternate efficient mode, delivered by a short coastal route with reliable vessel service, delivering goods right up to Dhaka and Chittagong Ports. A ray of hope has emerged, from the immense efforts put in by the J M Baxi Group, which has come up with a robust vessel service in accordance with the India-Bangladesh Coastal Protocol. The maiden voyage KSL Pride, with rated capacity of 170 TEUs, berthed at the

container terminal at Haldia managed by J M Baxi Group. This was just a beginning, as the trade will receive scheduled service, improving delivery lead times, and massive savings in material holding costs.

Haldia's eden channel has been strengthened by HICT integrated container terminal operations. In 2017, Haldia Dock Authority announced an official policy for fixed window facility to benefit exporters, importers, shipping lines and feeder operators. In order to streamline the arrival / sailing of container vessels and to reduce the turnaround time, HICT can have a minimum exchange of 600 Teus per call.

