EXECUTIVE SUMMARY

- Ports in India handle around 95 per cent of international trade volume of the country. Increasing trade activities and private participation in port infrastructure is set to support port infrastructure activity in India.

- India has 12 major ports. Under the National Perspective Plan for Sagarmala, six new mega ports will be developed in the country.

- India’s major ports had a capacity of 1,514.09 million tonnes per annum (MTPA) by FY19P. The Maritime Agenda 2010-20 has a 2020 target of 3,130 MT of port capacity.

- In FY20, major ports in India handled 704.82 million tonnes (MT) of cargo traffic, implying a CAGR of 2.74 per cent during FY16-FY20.

- As per Union Budget 2020-21, the total allocation for the Ministry of Shipping stands at Rs 1,800 crore (US$ 257.22 million).

Note: P – Provisional, T-Tentative, *- Till May 2020
Source: Ministry of Shipping - GOI, Care Ratings, Indian Ports Association
EXECUTIVE SUMMARY

- Out of India’s 204 non-major ports, 44 are functional and strategically located on the world’s shipping routes.
- Trade will boost demand for containers. In FY20, container traffic in India (for major ports) reached 9.98 TEUs, implying a growth of 1.12 per cent y-o-y.
- Infrastructural development will increase demand for iron and steel. In FY20, iron ore^ traffic at major ports reached 54.99 MT.
- In November 2019, JSW Infrastructure commissioned a new iron ore terminal at Paradip port in Odisha with a capacity to handle up to 18 million tonnes of cargo per annum.

Notes: TEU – Twenty Foot Equivalent Unit, ^ - Including pellets, T-Tentative, *- Till May 2020
Source: Ministry of Shipping – GOI, Indian Ports Association
ADVANTAGE INDIA
In FY20, major ports in India handled 704.82 million tonnes of cargo traffic, implying a CAGR of 2.74 per cent during FY16-20.

Total investment in Indian ports by 2020 is expected to reach US$ 43.03 billion.

Non-major ports are set to benefit from strong growth in India’s external trade.

Special Economic Zones (SEZ) are being developed near several ports, comprising of coal-based power plants, steel plants and oil refineries.

India has a coastline which is more than 7,517 kms long, interspersed with more than 200 ports.

Most cargo ships that sail between East Asia and America, Europe and Africa pass through Indian territorial waters.

India is the largest importer of thermal coal in the world.

The Government has initiated NMDP, an initiative to develop the maritime sector. The planned outlay is US$ 11.8 billion.

FDI of 100 per cent is allowed under the automatic route and a 10 year tax holiday is given to enterprises engaged in ports.

Plans to create port capacity of around 3,200 MMT to handle the expected traffic of about 2,500 MMT by 2020.

Note: NMDP – National Maritime Development Programme, FDI – Foreign Direct Investment, MMT – Million Metric Tonnes
Source: Report of the Task force on Financing Plan for Ports, Government of India, Indian Ports Association, Ministry of Shipping
CATEGORIES OF PORTS IN INDIA

Ports in India (September 2019)

**Major**
- There are 12 major ports in the country – 6 on the eastern coast and 6 on the western coast.
- Major ports are under the jurisdiction of the Government of India and are governed by Major Port Trusts Act 1963, except Ennore port, which is administered under the Companies Act 1956.

**Non-major (minor)**
- India has about 204 non-major ports.
- Non-major ports come under the jurisdiction of the respective state Governments’ Maritime Boards (GMB).

*Source: Ministry of Shipping*
MAJOR PORTS IN INDIA

Note: JNPT – Jawaharlal Nehru Port Trust
CARGO TRAFFIC IS ON THE RISE … (1/2)

Cargo traffic at major ports in India:

- Stood at 704.82 million tonnes in FY20T, growing at a CAGR of 3.83 per cent from FY16-FY20.
- In August 2019, India became the first country in the world to issue Biometric Seafarer Identity Document (BSID), capturing the facial bio-metric data of seafarers.
- November 2019 witnessed the first ever movement of container cargo on Brahmaputra (National Waterway 2), focused on improving the connectivity to Northeast Region (NER).
- In 2019, upgraded Port Community System was introduced for all ports.

Source: Ministry of Shipping

Note: FY – Indian Financial Year (April–March), ^CAGR is up to FY20, T- Tentative, *- Till May 2020
CARGO TRAFFIC IS ON THE RISE … (2/2)

Non-major ports are evolving faster than major ports

- Non-major ports are gaining share and a major chunk of traffic has shifted from major ports to non-major ports.
- The contribution of non-major port’s traffic to total traffic rose to 45 per cent in FY19.

Cargo traffic at non-major ports –

- Reached 447.21 million tonnes in FY20P (till December 2019).
- Increased at 7.7 per cent CAGR between FY16-FY19.

Note: P – Provisional, *- Till December
Source: Ministry of Shipping
CARGO PROFILE AT MAJOR PORTS IN INDIA … (1/2)

Cargo at major ports in FY16

- Solid: 46.4%
- Liquid (petroleum, oil and lubricants): 33.3%
- Container: 20.3%

- Iron ore: 2.1%
- Coal: 22.7%
- Fertilizer: 2.6%
- Other cargo: 18.9%

Cargo at major ports in FY20

- Solid: 41.7%
- Liquid (petroleum, oil and lubricants): 37.5%
- Container: 20.8%

- Iron ore: 5.8%
- Coal: 23.1%
- Fertilizer: 2.2%
- Other cargo: 10.6%

Note: Data for FY20 will be updated after March 2020
Source: Ministry of Shipping
Solid cargo contributes the largest share to all traffic handled at major ports in India, followed by liquid cargo and containers.

During FY08-FY19, CAGR in volume for different segments was as below –

- Solid cargo was 1 per cent
- Liquid cargo was 4 per cent
- Container cargo was 4 per cent

Solid, liquid and container cargo traffic during FY19 was 292 MT, 262 MT and 145 MT, respectively.

Adani Port and Special Economic Zone (APSEZ) became the first Indian port operator to handle cargo movement of 200 million tonnes (MT) in FY19.

Ease of Doing Business - Implementation of Radio Frequency Identification (RFID) based Port Access Control System (PACS) at Kolkata Dock System (KDS) was introduced in October 2019. Rabindra Setu and three Truck Parking Terminals at KDS were also inaugurated in 2019.

**Source:** Ministry of Shipping; Indian Ports Association
INCREASE IN CAPACITY AND PROFITS OVER THE YEARS

Net profit at major ports increased from Rs 1,150 crore (US$ 178.4 million) in FY13 to Rs 3,413 crore (US$ 529.6 million) in FY18, while operating margin increased from 23 per cent to 44 per cent.

Capacity at major ports was expected to reach 1,477 million tonnes in FY19P from 505 million tonnes in FY07.

Utilisation rates of major ports in India, such as JNPT port, Kandla port, and Ennore port, are much above the world’s average.

12 major ports were identified under Sagarmala project for cargo handling till 2035. The objective of this project is to promote port led development and to provide infrastructure to quickly transport goods to and from ports, with higher efficiency and at lower cost.

In July 2019, V.O.Chidambaranar port created a new record by handling 1,80,597 metric tonnes of cargo in a single day.

Shapoorji Pallonji Group expects Gopalpur port capacity to reach 55 million tonnes (mt) by 2025.

Note: 2017-18 capacity utilisation for major ports has been calculated by dividing capacity by traffic, FY19 Capacity is provisional

Source: Ministry of Shipping; Indian Ports Association (IPA)
Average turnaround time is influenced by factors such as type of cargo, parcel size and entrance channel.

Turnaround time at major ports in India has decreased at a rapid pace from 82.32 hours in FY17 to 59.51 hours in FY19.

Turnaround time at major ports stood at 64.69 hours in FY20 (till September 2019).

**Note:** Turnaround time – Total time spent by a ship from entry into port until departure

**Source:** Ministry of Shipping, Indian Port Association
RECENT TRENDS AND STRATEGIES
## NOTABLE TRENDS

### Increasing private participation
- Strong growth potential, favourable investment climate and sops provided by state governments have encouraged domestic and foreign private players to enter the Indian ports sector. In addition to the development of ports and terminals, the private sector has extensively participated in port logistics services.

### Setting up of port-based SEZs
- SEZs are being developed near several ports, thereby providing strategic advantage to industries within these zones. Plants being set up include –
  - Coal-based power plants to take advantage of imported coal.
  - Steel plants and edible oil refineries.
- Development of SEZs in Mundra, Krishnapatnam, Rewas and few others is underway.

### Focus on draft depth
- All the greenfield ports are being developed at shores with natural deep drafts and existing ports are investing on improving their draft depth.
- Higher draft depth is required to accommodate large sized vessels. Due to the cost and time advantage associated with the large sized vehicles, much of the traffic is shifting to large vessels from smaller ones, especially in coal transportation.

### Ports to operate on green energy
- Government of India is targeting to make the country the first in the world to operate all 12 major domestic Government ports on renewable energy. The Government plans to install almost 200 Mega Watt (MW) wind and solar power generation capacity by 2019 at the ports. The energy capacity could be ramped up to 500 MW in future years.

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**Note:** SEZ – Special Economic Zone, PPP – Public-Private Partnership  
**Source:** Ministry of Shipping
## NOTABLE TRENDS

### Specialist terminal-based ports
- Terminalisation: focus on terminals that deal with a particular type of cargo.
- This is useful for handling specific cargo such as LNG that requires specific equipment and hence high capital costs. Forming specialist terminals for such cargo result in optimal use of resources and increased efficiencies.
- Examples of specialist terminals: ICTT in Cochin and LNG terminal in Dahej Port.

### Sanitation
- Haldia port in West Bengal was rated as the cleanest port among all the major ports in the 1st ever ranking by the Ministry of Shipping. The ranking of major 12 Indian ports was conducted by the Quality Council of India (QCI) during the 'Swachhta Pakhwada'.

### ‘Landlord port’ model
- To promote private investment, the Government has reformed the organisational model of seaports –
  - From: A ‘service port’ model where the port authority offers all the services.
  - To: A ‘landlord port’ model where the port authority acts as a regulator and landlord while port operations are carried out by private companies.
- Major ports following ‘landlord port’ model: JNPT, Chennai, Visakhapatnam and Tuticorin.

### Rising traffic at non-major ports
- Increasing private participation in establishing minor ports. Cargo traffic handled by the minor ports are outpacing cargo traffic at major ports.

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**Note:** ICTT – International Container Transshipment Terminal, LNG – Liquefied Natural Gas, MMT – Million Metric Tonnes

**Source:** TechSci Research
### STRATEGIES ADOPTED

<table>
<thead>
<tr>
<th>Allied activities</th>
<th>▪ Adani group, largest private port operator in India, is now venturing into providing allied services like dredging. Its dredgers, which were used only at its own ports in the past, have now started taking work from other ports.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Container train operations</td>
<td>▪ Adani group has also ventured into the container railway business, becoming the largest private link in the country. It conducts operations on a pan-India basis, operating six container rakes.</td>
</tr>
<tr>
<td>Modernising</td>
<td>▪ Port authorities are modernising and upgrading port facilities to meet the needs of port users in a competitive environment. Indian Ports Association (IPA) launched a cloud based community system called ‘PCS1x’.</td>
</tr>
</tbody>
</table>
| Pan-India presence | ▪ After having a strong advantage on India’s West coast, Adani Ports and Special Economic Zone Ltd (APSEZ) is looking to strengthen its position by winning the bid of a new container terminal at Ennore port located on the east coast. Furthermore, Adani Ports has acquired Dharma Port to replicate its development and growth on the east coast.  
▪ Essar Ports Ltd, as a part of its strategic move to increase its potential on the east coast, has won the contract for modernisation of three ports in Visakhapatnam.  
▪ Essar Ports Ltd., a leading port operator, plans to build a port in Gujarat with investment worth US$ 1.49 billion. For the same, the company has signed a memorandum of understanding (MoU) with Gujarat Maritime Board (GMB). |
| Geographic diversification | ▪ Geographic diversification: Adani group acquiring coal mines (Australia and Indonesia) and setting up coal terminal in Australia to take the benefit of increasing coal imports in India.  
▪ Adani Group is going to develop a new container terminal in Myanmar, its second international port after Australia, and has committed investment worth US$ 290 million towards it. |

Source: Company websites, Press Trust of India
GROWTH DRIVERS AND OPPORTUNITIES
SECTOR BENEFITS FROM STRONG DEMAND, PRIVATE PARTICIPATION

**Policy support**
- Increasing trade activities resulting in container traffic
- Rising demand for coal and other commodities
- Growing crude imports by the country

**Growing demand**
- National Maritime Development Programme and National Maritime Agenda
- FDI of up to 100 per cent under the automatic route
- Various sops and incentives for private players to build ports

**Innovation**
- Expanding port development and distribution facilities in India
- Use of modern technology
- Providing support to global projects from India

**Increasing investment**
- Increasing investment in building ports and related activities
- Private equity supporting private port developers
- Increasing investments by foreign players
INDIA’S PORTS ARE BENEFITTING FROM STRONG GROWTH IN EXTERNAL TRADE

- Ports handle almost 95 per cent of trade volumes, and therefore, rising trade has contributed significantly to the cargo traffic.
- Merchandise export decreased 4.78 per cent y-o-y to reach US$ 314 billion in FY20.
- Increasing trade is translating into higher demand for containerisation due to their efficiency.

**Notes:**
1. merchandise trade, ^CAGR is till FY19, *- Till February 2020
Source: Ministry of Commerce and Industry - GOI
A consequence of strong GDP growth has been the rise in energy demand. As of May 2019, the country met about 84 per cent of the total crude oil demand by import.

India’s crude oil & petroleum products import touched 247 million metric tonnes in FY20, implying a CAGR of 5 per cent over FY16-FY20.

Private ports have been especially good at attracting crude import traffic.

Solid cargo has been a major contributor to total traffic at major ports and contributed 41.7 per cent in FY20.

Government plans to reduce India’s crude oil import by 10 per cent by 2022.

**Notes:** MMT – Million Metric Tonnes POL – Petroleum, Oil, and Lubricant

**Source:** Handbook of Indian Statistics (RBI), Petroleum Planning and Analysis Cell, Ministry of Shipping
### Road Connectivity Projects under Sagarmala

<table>
<thead>
<tr>
<th>State</th>
<th>Number of projects</th>
<th>Length (kms)</th>
<th>Cost (US$ billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gujarat</td>
<td>4</td>
<td>690</td>
<td>3</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>14</td>
<td>2,351</td>
<td>8.33</td>
</tr>
<tr>
<td>Goa</td>
<td>2</td>
<td>110</td>
<td>0.21</td>
</tr>
<tr>
<td>Karnataka</td>
<td>7</td>
<td>781</td>
<td>0.95</td>
</tr>
<tr>
<td>Kerala</td>
<td>21</td>
<td>220</td>
<td>0.69</td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>19</td>
<td>1,913</td>
<td>8.50</td>
</tr>
<tr>
<td>Andhra Pradesh</td>
<td>36</td>
<td>2,184</td>
<td>4.68</td>
</tr>
<tr>
<td>Odisha</td>
<td>4</td>
<td>62</td>
<td>0.10</td>
</tr>
<tr>
<td>West Bengal</td>
<td>5</td>
<td>275</td>
<td>1.44</td>
</tr>
</tbody>
</table>

- As of May 2019, 334 projects have been initiated across the country under Sagarmala.
- Road connectivity projects worth Rs 179,761 crore (US$ 27.89 billion) are being implemented in coastal states.
- Government of India have undertaken 55 rail projects worth Rs 45,883.2 crore (US$ 6.57 billion) and 15 road projects worth Rs 2,899 crore (US$ 0.41 billion) for improved port connectivity at various major and minor ports.
- Approximately 10,000 jobs were created through projects initiated under Sagarmala during the last three years.
- India’s second riverine multi-modal terminal, built at Sahibganj in Jharkhand, was introduced on September 12, 2019.

**Source:** Ministry of Shipping

### Rail Connectivity Projects under Sagarmala

<table>
<thead>
<tr>
<th>Status</th>
<th>Number of projects</th>
<th>Length (kms)</th>
<th>Cost (US$ billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed</td>
<td>13</td>
<td>426</td>
<td>0.40</td>
</tr>
<tr>
<td>Under Implementation</td>
<td>27</td>
<td>1,967</td>
<td>2.92</td>
</tr>
<tr>
<td>Pre-Implementation</td>
<td>30</td>
<td>1,854</td>
<td>3.93</td>
</tr>
</tbody>
</table>

### Multi modal Logistics Parks under Sagarmala

<table>
<thead>
<tr>
<th>Status</th>
<th>Number of parks</th>
<th>Cost (US$ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed</td>
<td>1</td>
<td>18.62</td>
</tr>
<tr>
<td>Under Implementation</td>
<td>9</td>
<td>267.65</td>
</tr>
<tr>
<td>Pre-Implementation</td>
<td>5</td>
<td>266.41</td>
</tr>
</tbody>
</table>
### NATIONAL MARITIME AGENDA 2010–2020

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Increasing capacity</strong></td>
<td>- To create a port capacity of around 3,500 MT to handle the expected traffic of about 2,500 MT by 2025.</td>
</tr>
</tbody>
</table>
| **Increasing investment** | - Proposed investment in major ports by 2020 is expected to total US$ 18.6 billion, while those in non-major ports will be around US$ 28.5 billion. The Government is also working to float a specialised Maritime Finance Corporation to fund the port projects.  
  - Gujarat ports attracted investment worth Rs 36,000 crore (US$ 4.98 billion) from Indian and foreign firms. |
| **World-class infrastructure** | - Implementation of full mechanisation of cargo handling and movement at ports, thereby bringing Indian ports on par with the best international ports in terms of performance and capacity. |
| **Landlord ports**        | - Major ports have been working towards implementing ‘Landlord port’ concept, duly limiting their role to maintenance of channels and basic infrastructure, and leaving development, operation and management of terminal and cargo handling facilities to private sector. |
| **Strategically building ports** | - To develop two major ports (one each on east and west coast) to promote trade as well as two hub ports (one each on west and east coast) – Mumbai (JNPT), Kochi, Chennai and Visakhapatnam.  
  - Master plan for 142 capacity expansion projects worth Rs 91,434 crore (US$ 14.19 billion) have been prepared by the Government of India under the Sagarmala programme.  
  - JSW Infrastructure signed built, operate and transfer agreement with Paradip Port Trust at an investment of Rs 750 crore (US$ 107.31 million) to operate the Paradip port. |
| **Bringing ports under regulator** | - To establish a port regulator for all ports in order to set, monitor and regulate service levels and technical and performance standards. |

*Source: Ministry of Shipping*
FAVOURABLE POLICIES ASSISTING THE PRIVATE SECTOR

| De-licensing and tax holidays | The Government has allowed FDI of up to 100 per cent under the automatic route for projects related to the construction and maintenance of ports and harbours.  
| Private ports enjoy price flexibility as the Government allows non-major ports to determine their own tariffs in consultation with the State Maritime Boards. At major ports, tariffs are regulated by the Tariff Authority for Major Ports (TAMP).  
| MCA was finalised to bring transparency and uniformity to contractual agreements that major ports would enter with selected bidders for projects under the build, operate and transfer model.  
| In March 2018, a revised MCA was approved by the Government of India to make major ports in the country more investor friendly.  
| Primary focus of the scheme was to allow future public private partnership (PPP) operators to fix tariffs. With the implementation of this policy, port authorities were to get the power to lease land for port-related use for up to 40 years and for non-port related use up to 20 years.  
| Expansion of existing framework to attract participation from the private sector for development of infrastructure facilities such as dredging, road infrastructure, creation of SEZ and development of integrated parking zones in the port area.  
| Project UNNATI was started by the Government of India to identify opportunity areas for improvement in the operations of major ports. 116 initiatives were identified under the project, out of which, 93 initiatives have been implemented as of September 2019.  

Source: Ministry of Shipping, Indian Ports Association
Essar Ports will invest US$ 70 million in Hazira port by 2020.

39 PPP projects are operational at a cost of around US$ 2219.4 million and capacity of 240.72 Million Tonnes Per Annum (MTPA). 32 PPP projects at an estimated cost of around US$ 3917.6 million and capacity of 264.77 Million Tonnes Per Annum (MTPA) have been awarded and are under implementation.

National Green Tribunal has given nod for construction of multi-crore ‘Vizhinjam International Seaport Ltd (VISL)’. The port is being developed by Adani Group in collaboration with Kerala Government.

As of May 2019, Maharashtra Maritime Board (MMB) started building a new private port at Vadhawan in Palghar district based on the PPP model.

On 30 October 2018, Inland Waterways Authority of India (IWAI) gave operations and management of its terminal in Kolkata to Summit Alliances Port East Gateways Pvt. Ltd. (SAPEL).

As of November 2019, number of projects have been awarded in the last three years with a total project cost of Rs 13,308.41 crore (US$ 1.90 billion) for upgradation of major ports.

Note: PPP – Public Private Partnership
Source: Ministry of Shipping, EY
### STRONG PRIVATE SECTOR PARTICIPATION IN PORTS PROJECTS ... (2/2)

#### Terminals in major ports with private sector involvement

<table>
<thead>
<tr>
<th>Terminals in major ports with private sector involvement</th>
<th>Port agency</th>
<th>Estimated cost (US$ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Container terminal, Ennore</td>
<td>Ennore</td>
<td>293.1</td>
</tr>
<tr>
<td>LNG terminal, Cochin</td>
<td>Cochin Port Trust</td>
<td>729.1</td>
</tr>
<tr>
<td>Container terminal, NSICT</td>
<td>JNPT</td>
<td>156.3</td>
</tr>
<tr>
<td>Oil jetty related facilities (Vadinar)</td>
<td>Kandla Port Trust</td>
<td>156.3</td>
</tr>
<tr>
<td>Third container terminal (Mumbai)</td>
<td>JNPT</td>
<td>187.5</td>
</tr>
<tr>
<td>Crude oil handling facility (Cochin)</td>
<td>Cochin Port Trust</td>
<td>146.5</td>
</tr>
<tr>
<td>ICTT at Vallarpadam (Cochin)</td>
<td>Cochin Port Trust</td>
<td>262.9</td>
</tr>
<tr>
<td>Construction of SPM captive berth (Paradip)</td>
<td>Paradip Port Trust</td>
<td>104.2</td>
</tr>
<tr>
<td>Development of second container terminal (Chennai)</td>
<td>Chennai Port Trust</td>
<td>103.1</td>
</tr>
</tbody>
</table>

#### Key private sector companies

<table>
<thead>
<tr>
<th>Key private sector companies</th>
<th>Ports they developed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maersk</td>
<td>JNPT (Mumbai)</td>
</tr>
<tr>
<td>P&amp;O Ports</td>
<td>JNPT, (Mumbai and Chennai)</td>
</tr>
<tr>
<td>Dubai Ports International</td>
<td>(Cochin and Vishakhapatnam)</td>
</tr>
<tr>
<td>PSA Singapore</td>
<td>Tuticorin</td>
</tr>
<tr>
<td>Adani</td>
<td>Mundra</td>
</tr>
<tr>
<td>Maersk</td>
<td>Pipavav</td>
</tr>
<tr>
<td>Navyuga Engineering Company Ltd</td>
<td>Krishnapatnam</td>
</tr>
<tr>
<td>DVS Raju group</td>
<td>Gangavaram</td>
</tr>
<tr>
<td>JSW</td>
<td>Jaigarh</td>
</tr>
<tr>
<td>Marg</td>
<td>Karaikal</td>
</tr>
</tbody>
</table>

**Note:** NSICT – Nhava Sheva International Container Terminal, Mumbai, ICTT – International Container Transshipment Terminal, SPM – Single Point Mooring  
**Source:** Indian Ports Association
Increasing Scope for Private Ports

- With rising demand for port infrastructure due to growing import (crude, coal) and containerisation, public ports (major ports) will fall short of meeting demand.

- This provides private ports an opportunity to serve the spill-off demand from major ports and increase their capacity in line with new demand.

- Cochin Port Trust (CPT) announced measures to increase its revenue by generating higher container traffic and increasing the number of passenger liners. CPT is also planning to setup a small industrial port at the southern end of Willingdon Island to boost business.

Ship repair facilities at ports

- Dry docks are necessary to provide ship repair facilities. Out of all the major ports, Kolkata has 5 dry docks, Mumbai and Visakhapatnam have 2. The rest have 1 or no dock at all.

- Given the positive outlook for cargo traffic and the resulting increase in number of vessels visiting ports, demand for ship repair services will go up. This will provide opportunities to build new dry docks and setup ancillary repair facilities.

Port support services

- Operation and maintenance services such as pilotage, dredging, harbouring and provision of marine assets such as barges and dredgers are expected to increase in coming years.

- Increasing investment and cargo traffic point to a healthy outlook for port support services.

- These include Operation and Maintenance (O and M) services like pilotage, harbouring and provision of marine assets like barges and dredgers.

- JNPT in Navi Mumbai signed an agreement with Development Bank of Singapore and State Bank of India for external commercial borrowing worth US$ 400 million for expansion of road network connecting the port.

Note: OandM – Operations and Maintenance
Source: Ministry of Shipping
KEY INDUSTRY ORGANISATIONS
<table>
<thead>
<tr>
<th><strong>INDUSTRY ORGANISATIONS</strong></th>
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</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Indian Ports Association (IPA)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Address:</strong> 1st floor, South Tower, NBCC Place</td>
</tr>
<tr>
<td>Bhishma Pitamah Marg, Lodi Road</td>
</tr>
<tr>
<td>New Delhi – 110 003</td>
</tr>
<tr>
<td><strong>Phone:</strong> 91-11-24369061, 24369063, 24368334</td>
</tr>
<tr>
<td><strong>Fax:</strong> 91-11-24365866</td>
</tr>
<tr>
<td><strong>E-mail:</strong> <a href="mailto:ipa@nic.in">ipa@nic.in</a>, <a href="mailto:ipadel@nda.vsnl.net.in">ipadel@nda.vsnl.net.in</a></td>
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<table>
<thead>
<tr>
<th><strong>Indian Private Ports and Terminals Association</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Address:</strong> Darabshaw House, Level-1, N.M. Marg,</td>
</tr>
<tr>
<td>Ballard Estate, Mumbai 400 001, India</td>
</tr>
<tr>
<td><strong>Tel. No:</strong> 022-22610599</td>
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<td><strong>Fax. No:</strong> 022-22621405</td>
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<td><strong>Email:</strong> <a href="mailto:secretary@ippta.org.in">secretary@ippta.org.in</a></td>
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USEFUL INFORMATION
NOTES

- Major and non-major ports do not have a strict association with traffic volumes. The classification has more of an administrative significance.
- Cargo traffic includes both loading (export) and unloading (imports) of goods.
- Containerisation is the increased use of container for transporting non-bulk goods. It leads to increased efficiency (both time and money).
- Turnaround time is the total time spent by a ship from entry into port till departure.
- Twenty Equivalent Units (TEU) is a standard measure of containers which are 20 feet in length and 8 feet in width; the height can vary.
- Draft is the vertical distance between waterline and the bottom of the ship. It determines the depth of water a ship or boat can safely navigate. Higher capacity ships will need higher draft, hence ports with higher natural draft will attract bigger ships.
- Waterfront availability is the length of the water line on the coast where ships can rest and the goods are unloaded. Longer waterfront lengths reduce waiting time and help raise capacity.
- Terminals are certain sections of the ports where different types of cargo are unloaded.
- Single Point Mooring (SPM) is a loading buoy anchored offshore that serves as a mooring point and interconnect for tankers loading or offloading gas or fluid product.
- A dry dock is a narrow basin that can be flooded to allow a ship to be floated in, then drained to allow that ship to come to rest on a dry platform. Dry docks are used for construction, maintenance and repair of ships.
GLOSSARY

- FY: Indian Financial Year (April to March) – So FY11 implies April 2010 to March 2011
- US$: US Dollar
- FDI: Foreign Direct Investment
- IPA: Indian Ports Association
- NMDP: National Maritime Development Programme
- POL: Petroleum, Oil and Lubricants
- SEZ: Special Economic Zone
- CAGR: Compounded Annual Growth Rate
- ICTT: International Container Transshipment Terminal
- TEU: Twenty-Foot Equivalent Unit
- MMTPA: Million Metric Tonnes Per Annum
- MMT: Million Metric Tonnes
- GOI: Government of India
- NSICT: Nhava Sheva International Container Terminal, Mumbai
- O&M: Operation and Maintenance services
- LNG: Liquefied Natural Gas
- Wherever applicable, numbers have been rounded off to the nearest whole number
## EXCHANGE RATES

### Exchange Rates (Fiscal Year)

<table>
<thead>
<tr>
<th>Year (Fiscal Year)</th>
<th>INR Equivalent of one US$</th>
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<tbody>
<tr>
<td>2004–05</td>
<td>44.95</td>
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<td>2005–06</td>
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<td>2017–18</td>
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<tr>
<td>2018–19</td>
<td>69.89</td>
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<tr>
<td>2019–20</td>
<td>70.49</td>
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</table>

### Exchange Rates (Calendar Year)

<table>
<thead>
<tr>
<th>Year (Calendar Year)</th>
<th>INR Equivalent of one US$</th>
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</thead>
<tbody>
<tr>
<td>2005</td>
<td>44.11</td>
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<td>2018</td>
<td>68.36</td>
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<tr>
<td>2019</td>
<td>69.89</td>
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</tbody>
</table>

**Source:** Reserve Bank of India, Average for the year
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