



**Mantrana Maritime
Advisory Pvt. Ltd.**

**Indian Shipbuilding Industry
Opportunities for Global
Equipment Suppliers**



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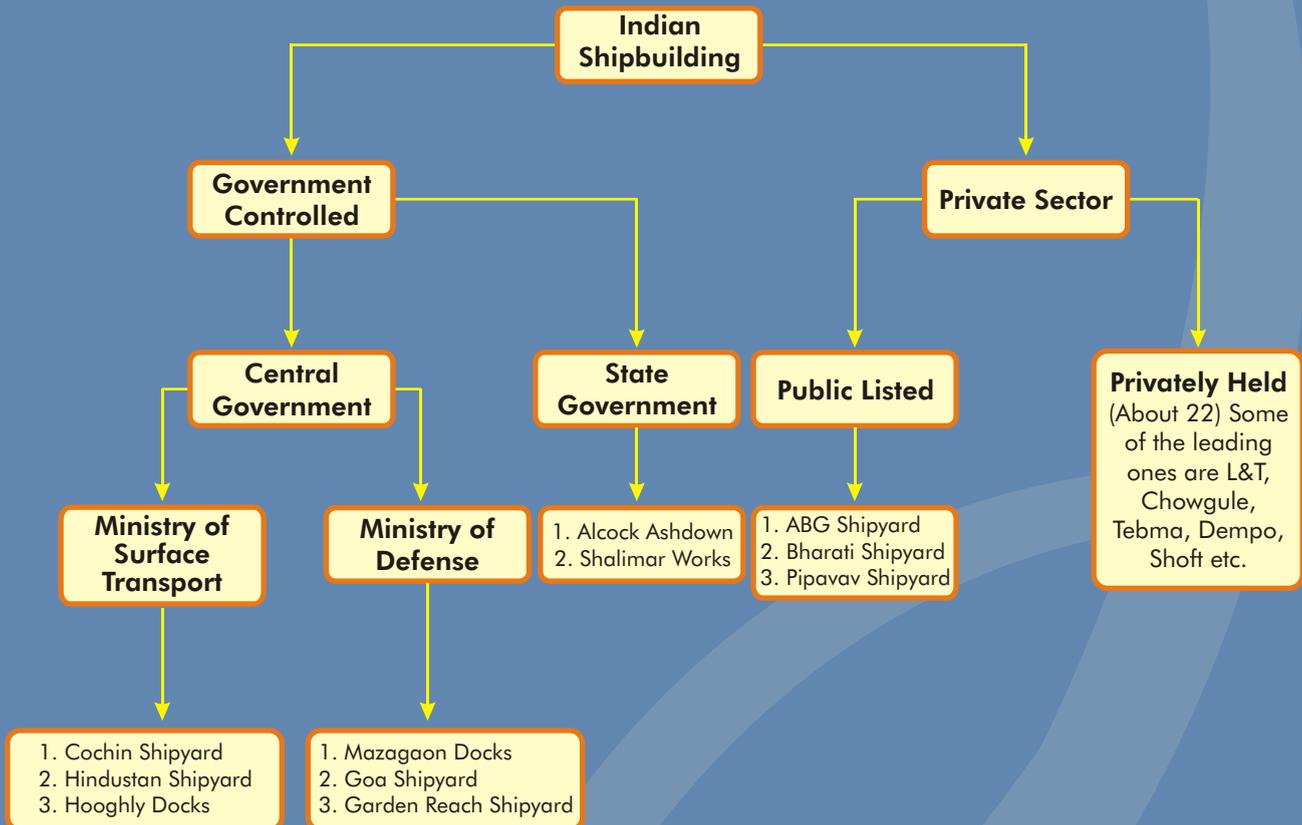
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Shipbuilding - Overview

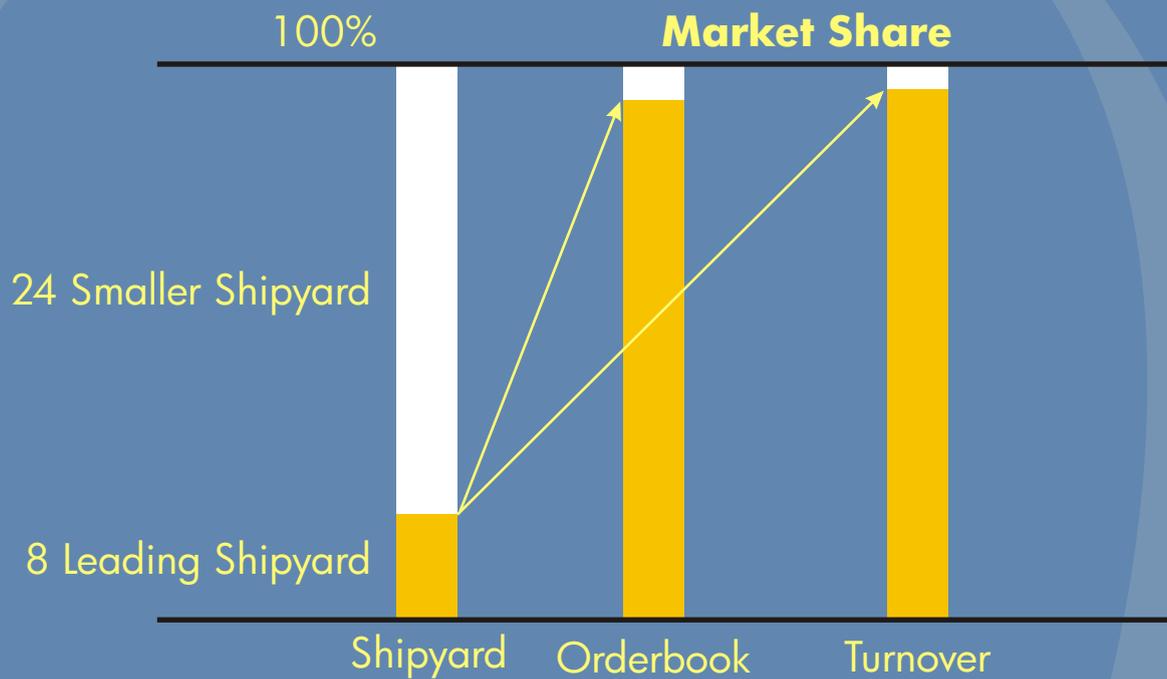
Shipbuilding in India is very fragmented. Though there are more than 32 shipyards of various sizes, commercial shipbuilding is controlled primarily by 8 shipyards, of these 2 have been added to the list recently.



The top 8 yards contribute more than 95% to the Indian shipbuilding orderbook and they also contribute more than 95% to the delivery of ships by value. They are ABG Shipyard, Bharati Shipyard, Chowgule & Co., Cochin Shipyard, Hindustan Shipyard, L&T Shipyard, Pipavav



Commercial Shipbuilding



These 8 shipyards built ships in the medium size segment and specialised segment requiring imported equipments and machinery, whereas, the rest of the 24 smaller shipyards procure their equipments and machinery locally. Majority of the smaller shipyards are based in small clusters in Gujarat, Goa, and West Bengal. There have been some cases of consolidation in the shipbuilding industry in India. ABG Shipyard bought Vipul Shipyard, Bharati Shipyard bought Pinky Shipyard. ABG Shipyard has also taken control of Western India Shipyard.

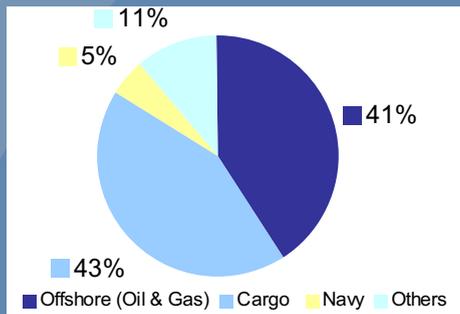
The 8 leading shipyards in India have mostly focused on specialized vessels in the past. With expansion plans in place they have increased their focus on cargo ships in last two years; they also build ships for coast guard.

Offshore Oil & Gas segment has a substantial share in the Indian Shipbuilding orderbook. As offshore exploration and production market has been less affected by global downturn, Indian shipyards has not seen major cancellations in the segment.

The broad orderbook breakup of commercial shipyards in India is as follows



Orderbook by Ship Segment



New building orders in the cargo segment has picked up between year 2006 and year 2008. A large proportion of new building orders in the cargo segment have been ordered by Indian firms, either directly or through their overseas subsidiary. As firms are optimistic on the firm utilization of these vessels for domestic cargo, they have rescheduled the delivery of these orders and have not cancelled, post

financial crisis. Pipavav Shipyard received orders from Golden Ocean and Greek based Alba Maritime Services.

In 2008, Indian Shipbuilding Industry had followed global pattern. The newbuilding orders at Indian Shipyard have increased from US\$ 300 million in 2002 to over US\$ 6 billion in 2008. However, the flow of orders to Indian Shipyards has reduced since January 2008 and stopped post August 2008. A fewer newbuilding orders have been placed since August 2008. Shipping Corporation of India has placed orders on Bharati Shipyard and Cochin Shipyard for building supply vessels. Bharati Shipyard also received orders from the coast guard. The established shipyards in India are occupied with work as they are booked till 2011. They have new building orders placed at them by financially sound firms. A large number of these orders are in the specialized segments, which have not yet been affected by global slowdown or credit crunch.

The turnover of the commercial shipyards has increased by 7 times from Rs 6 billion in the year 2002 to approximately Rs.40 billion in Fy-09. The newbuilding orderbook of shipyards in 2007 registered more than twenty-fold increase in six years whereas rate of ship delivery has followed similar growth due to infrastructure constraints.

Shipyards in India lacked infrastructure to build large ships. Private sector shipyards had capacity to build ships up to 20,000 DWT. Two public sector shipyards namely Hindustan Shipyard and Cochin Shipyard had capacity to build up to 75,000 DWT and 110,000 DWT ships. Expansion plans are underway to build large ships.

ABG has bagged several orders for building bulk carriers. It is also building Jackup rig for Essar Oil field services, whereas Bharati Shipyard is building Jackup rig for Great Offshore. It can be seen in the table below, Indian shipyards are expanding their capacity in the large vessel segment. ABG Shipyard, Bharati Shipyard would be building ships more than 100,000 DWT. Pipavav Shipyard is setting up largest shipyard capable of building VLCC.



Capacity and Expansion of Shipyards

Name	Location	Capacity DWT	
		Existing	Expansion
ABG Shipyard	Hazira & Dahej, Gujarat	20,000	120,000
Alcock Ashdown	Bhavnagar, Gujarat	12,000	NA
Bharati Shipyard	Mumbai, Ratnagiri (MH), Dhabol (MH), Goa	20,000	100,000
Chowgule & Co. Ltd.	Goa	8,000	NA
Cochin shipyard	Cochin, Kerala	110,000	Small Ship
Hindustan Shipyard	Vizag, AP	70,000	NA
Larsen & Toubro	Hazira, Gujarat	12,000	NA
Pipavav Shipyard	Pipavav, Gujarat	NA	300,000
Tebma Shipyard	Mangalore, Kamataka		6,000

Source : Mantrana

Among 9 shipyards listed above, India has two commercial shipyards under government control namely Hindustan Shipyard and Cochin Shipyard. Hindustan Shipyard is being taken over by Ministry of Defence, hence is unlikely to be used for building commercial ships in future.

Cochin shipyard has got newbuilding order for building an Aircraft carrier. Hence, the shipyard has stopped taking orders for medium sized commercial ships, though it developed good credential by delivering Clipper group bulker carriers in time to and specification. It has taken orders for building OSV jointly with Tebma Shipyard. Building OSV does not conflict with the shipyard's existing Aircraft Carrier schedule. Cochin Shipyard is likely to continue building smaller ships, till Aircraft Carrier is delivered.

In addition to the above listed capacity expansion plans, several other shipyards are in various stages of planning.

Building ships for the offshore segment has substantial share in the newbuilding of ships. As can be seen in the table below, Indian shipyards have only Rs 122 billion worth orderbook in the cargo segment, which has been most affected by the global slowdown. Thus the cases of order cancellation in India as compared to rest of the shipbuilding countries such as China are minimised.



Orderbook by ship segments

Category	Domestic		Export		Total	
	No	Rs bn	No	Rs bn	No	Rs bn
Offshore (Oil & Gas)	16	43.8	81	70.7	97	114.5
Cargo	15	17.6	95	104.4	110	122.1
Navy	19	11.6	0	0.0	19	11.6
Passenger Vessel	4	2.0	0	0.0	4	2.0
Barges	10	0.5	0	0.0	10	0.5
Others	6	7.6	14	20.8	20	28.3
Total	70	83.2	190	195.9	260	279.0

Source : Mantrana Advisory

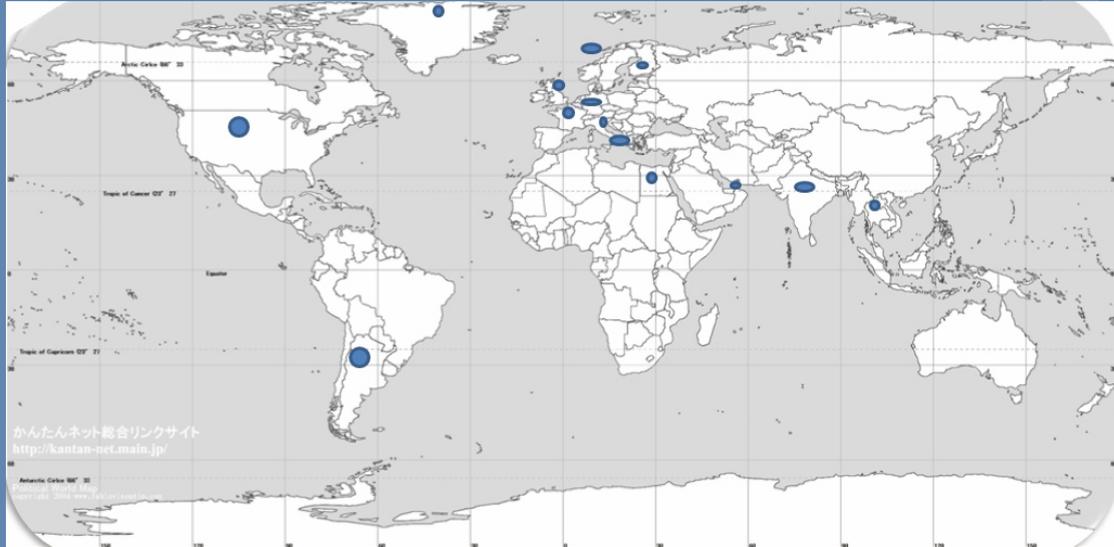
In addition to 8 commercial shipyards which dominate commercial shipbuilding industry, there are a few upcoming small shipyards. These will be able to build small and specialized ships. These shipyards are Dempo Shipyard, Shoft Shipyard at Bharuch, Modest Infrastructure at Bhavnagar, Startek Shipyard, etc. These shipyards could diversify into building OSV and other small specialised ships.

Indian Navy and Coast Guard are likely to place orders for combat vessels and service ships such as tugs, barges, and patrol vessels. Naval projects in India are driven by government budgets. With a breach in India's coastal security recently, government is putting more emphasis on upgradation of Naval and Coast Guard fleet. More ships are likely to be ordered in this segment.



Indian Shipyards' Customer Profile

Geographical Distribution of Owners



Majority of the orders placed on Indian shipyards are from European Shipowners. The owners specify manufacturers for all the critical items placed in a ships.

Indian shipyards have built offshore supply vessels for leading offshore companies such as Deep Sea Supply, Bourbon Offshore, Lamnalco Group, Halul offshore, Maridrive oil, etc.

They have also built ships for leading international cargo carriers. Cochin Shipyard has built ships for Clipper group. In addition, Indian shipyards have newbuilding orders from Precious Shipping of Singapore, Reederei Vogemann and Opiolek Reederei of Germany, etc.

More than 70% of the orders placed at leading 8 shipyards in India, which control more than 95% of commercial shipbuilding are for export. Initially, these orders were global spillover orders, however, with subsequent delivery of ships, Indian shipyards have gained international trust.



Equipment Segment

As shipbuilding in India is in its nascent stage, most of the critical equipment and machinery used in ships are imported. The indigenous items are used in coastal barges, fishing vessels and Inland vessels. These segments contribute less than 5% of commercial shipbuilding in India. In the absence of local manufactures Indian shipbuilding industry opens large opportunities for international equipment suppliers.

Market share in high-end equipment segment such as Marine Engines, Propulsion Systems, Automation systems, Communication systems which are currently shared with Japanese, German, Singapore and Korean Companies.

Shipyards in India procure all the low value items either from China or have developed local vendors to manufacture them. These items include Anchors, Anchor Chains, Cables, Switches, Intercommunication systems, valves, etc There are more than 500 companies from various countries registered in India to supply critical equipments and machinery.

Price of equipment plays an important role in the decision making process for selection of equipments and machinery. If the make of equipments and machinery is not specified by the owner, price becomes a key parameters in deciding the make, though without compromising on the quality of equipments and machinery.

Following is the list of some of the equipments and country of manufacturer.

Equipment	Countries of Import (Alphabetical)
Main Engine	Belgium, Finland, India, Japan, Singapore, S Korea, U.K.
Propulsion	Germany, India, Norway, Singapore
Gensets	France, Germany, India, Japan, Singapore, U.K.
Steering Gear	Canada, Denmark, Germany, India, Japan, Netherlands, Singapore
Deck Crane	Germany, India, Italy, Norway, S. Korea, UAE, U.K.
Navigation	German, India, Japan, Norway, U.K.
HVAC	Korea, Australia, Singapore, Netherlands, Denmark
Boiler Plant	Belgium, Sweden, Denmark, Norway
Anchor Chain	China, Hongkong, Singapore, India, Korea, Japan
Valves	Netherlands, Singapore, Scotland, Germany, Korea, India
Marine Duty Pumps	Spain, India, Italy, Denmark, Germany, Singapore, Netherlands
Lashing Range	India, Singapore, Denmark, Hong Kong
Fire Fighting System	Greece, Germany, Holland, U.K., Japan, Singapore
Inter Communication	Singapore, Denmark, India
Air Compressor	Germany, Singapore, U.K. Holland, Germany
Winch	Australia, Singapore, Belgium, Denmark, Holland, Japan
Towing Winch	Belgium, Netherlands, Holland, Denmark, Japan, Spain

Source : Mantrana

Indian shipyards lack volume to make commercial ancillary development viable. Annual delivery of ocean going ships from Indian shipyards vary between 35 to 40. These 40 ships built at Indian shipyard cater to a wide range of market segment, wider specification and distributed owners. The ships machinery used for these ships could have varied capacities, dimensions, and ownerships. This makes development of ancillary industry difficult.

Norwegian equipment suppliers dominate supplies to Indian shipyards in building offshore supply vessels. However, in large bulk carrier segment a large portion of equipments are imported from S. Korea, China and other countries.



Local Suppliers

Several firms have entered in Indian market with a view to gradually expand their presence into full fledged manufacturing unit. Garden Reach Shipbuilders has setup MTU engine manufacturing unit at Ranchi. Wartsila has setup plant in Khopoli, Maharashtra for manufacturing and assembly of genests. Goa Shipyard jointly with Wartsila has supplied several heavy forged components to naval ships MAN and Caterpillar have setup their assembly and testing units in Maharashtra and Tamil Nadu. These units also cater to land based requirements in addition to marine segment. Due to lack of volume, standalone units for marine segment would not be viable. In addition to these, Steel Authority of India and Essar Steel have begun catering to shipyards for steel plates.

India has Heavy Forging Units at Heavy Engineering Corporation, Ranchi. Though the company is in financial trouble, it caters to mostly naval and coast guard ships. In addition, Bharat Heavy Electricals also supplies to shipyards, but does not have dedicated unit for shipbuilding industry due to lack of volume. Bharat Forge, one of the leading forging company globally is setting up heavy forging unit at an investment of more than Rs.30 billion.

However, India has full-fledged ancillary units which supports building small barges, river crafts, etc. Companies such as Geeta Engineering, Shree Gajanan Prasad, etc have well equipped plants to manufacture propellers, shafts for barges, fishing trawlers, etc.

ABG Shipyard and Pipavav Shipyard have proposed setting up engine manufacturing units with foreign collaboration. Atlas Coppco and Kirloskar make compressors, Jindal makes pipes, Voltas and Bluestar make air conditioning equipments are some of the other ancillaries.

Local manufacturers have an edge in supplying these low value items as cost is sole criteria in selecting these vendors. Some of the foreign based firms such as Siemens manufacture switches locally for shipyards. Local manufacturers in India roughly control close to 60% of the supply of cables, switches, valves, intercommunication systems, etc, rest is procured from China, Singapore. These items do not fall under critical list of items and their make is not specified by ship owners who place their orders to Indian Shipyards. Shipyards select the suppliers and price is the determining factor in choice of suppliers.



Government Support

Government of India has 30% subsidy scheme for the promotion of shipbuilding. The scheme was extended for private sector shipyards in the year 2002, prior to that it was valid only for the public sector shipyards. The scheme was valid for ships delivered before August 14, 2007. However, government has extended subsidy scheme to newbuilding orders booked before August 14, 2007. The proposal for extension of scheme for a longer term is with government for consideration.

Government would pay a subsidy of 30% of the contract price for all export orders and for ships of more than 80 m of length on all domestic orders, subject to availability of funds. To be eligible for subsidy, the newbuilding order should have been won on global tenders.

Future Outlook of Shipyards

Larsen & Toubro has setup small ship building facility at Hazira in Gujarat. The shipyard can build ships upto 120 m in length and 20,000 tonnes. In addition to its infrastructure in Gujarat, L&T is planning to set up a Rs 2,000-crore integrated Greenfield shipbuilding yard cum port facility near Ennore, north of Chennai. It will come up at Kattupalli village near Ennore in Tiruvallur district of Tamil Nadu. It will focus on new building of commercial ships like very large crude carriers (VLCCs), specialized cargo ships for liquid and gas transportation and cruise vessels. It will also have the capability to build defense vessels, offshore platforms and floating production-cum-storage facilities for the oil and gas sector.

Mercator Lines and Mech Marine Engineers have jointly proposed to build two shipyards each in Maharashtra and Gujarat at a total investment of Rs 1.5 billion. Construction work of a yard at Palghar, Maharashtra has begun. The company is developing Palghar Shipyard in close to 70 acres of land. Goodearth Maritime, a Chennai based dry bulk shipping firm is planning to setup a large shipyard with an expected investment of close to US\$ 500 million in the first phase. However, companies' expansion plans have taken a backseat post recession.

There had been several announcements for new shipyards. Gujarat is the leader in inviting maximum number of companies to setup shipbuilding facilities in the state. Private investors have proposed investments close to Rs 70 billion, with looming recession and uncertainty in the market most of these investments have not been initiated.





New building opportunities



NSA estimates show that shipping industry requires an investment of close to US\$ 20 billion during Eleventh Plan to retain the current market share in overseas trade.

Dredging Corporation of India (DCI) will buy three dredgers at a cost of Rs. 1,722 crore.

Shipping Corporation of India needs around USD 2.5 billion to fund its proposed acquisition of some 29 ships to be delivered between 2009 and 2012.

ONGC had planned to replace its fleet of 31 supply vessels. The company had recently floated tender to build 12 OSVs, Pipavav Shipyard is said to be the lowest bidder for same. However, orders are yet to be placed.

Shipping Corporation has placed newbuilding order for 4 AHTS on Bharati Shipyard and has also awarded 2 AHTS contracts to Cochin Shipyard on nomination basis. The company could be replacing 6 more of its ageing ships.

Director General of Shipping has directed all Major Ports to acquire two Patrol launch for security. There are 13 Major Ports in India.



Some of the current Opportunities for equipment suppliers to Indian Shipbuilding Industry

Garden Reach Shipbuilders & Engineers Limited

Tender No.	NCM-IMPORT/02/500T Hydraulic Press/HSS/2009-10
Tender Description	Offers are invited in sealed envelopes in two bid system from the vendors having experience for supply, Installation & Commissioning of 500 Ton Hydraulic Press with 2 Nos. Additional Roller support for Heavy Structural Shop
Tender Submission	29th Sept, 2009 at 1200 hours
Tender Cost	Rs.500/-

Hindustan Shipyard Limited

Tender NO.	MP/Q/002827/09-10
Tender Description	Enquiry technical specification and scope of supply of Oily Bilge water separator for 2 nos. 50 tons bollard pull tugs for Visakhapatnam Port Trust Vessel nos. 11160-61.
Tender Submission	Extended upto 14th Sept, 2009 at 1100 hours
Tender Cost	Rs.500/-
EMD	Rs.14,000/-
Tender NO.	MP/Q/001950/09-10
Tender Description	Enquiry technical specification and scope of supply of MD Belt Driven Reciprocating Hydrophore Pumps & Tanks for 2 nos. 50 tons bollard pull tugs for Visakhapatnam Port Trust Vessel nos. 11160-61.
Tender Submission	Extended Upto 16th Sep, 2009 upto 11:00 hours
Tender Cost	Rs.800/-
EMD	Rs.92,000/-
Tender NO.	MP/Q/002824/09-10
Tender Description	Technical specification for supply of disc type Towing Hooks required for 50t. Bollard Pull Tug for VPT HSL yard nos. 11160 & 61.
Tender Submission	Extended Upto 15-09-2009 upto 11:00 hours
Tender Cost	Rs.500/-
EMD	Rs.17,000/-
Tender NO.	MP/Q/001727/09-10
Tender Description	Technical Specification for Supply Of Electric Windlass Required For 50t. Bollard Pull Tug. Hsl Yard Nos. 11160-61.
Tender Submission	Extended Upto 8th Sep, 2009 upto 11:00 hours
Tender Cost	Rs.500/-
EMD	Rs.22,000/-



Mantrana Maritime Advisory

We offer a wide range of customized consultancy services in Maritime which includes shipbuilding, shipping, ports, containers, offshore drilling & logistics and infrastructure sector. In a short span of time, we have covered tremendous ground since Mantrana represents professionals who have been part of the maritime industry for decades. We have a team of dedicated professionals drawn from the maritime industry as well as academic institutes of high repute. Experienced, accomplished experts work with young, dynamic consultants to provide you with advice which is innovative, out of the box and yet - technically sound. Having a vast and diverse experience in the field of maritime, we understand that each client is unique. To cater to individual needs, we work closely with our clients and provide constant feedback to ensure total client satisfaction.

Our Services

We provide detailed and comprehensive solutions which ensure client satisfaction and subsequent value addition. We also suggest ideas and opportunities to clients and develop project reports to give a concrete shape to these ideas. Our extensive network across all Maritime segments ensures that we are never short of expertise and technical know-how no matter how diverse a project. If a part of the project, no matter how small, is beyond our knowledge, we have the network to handpick the right people for the job.

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