



माझगांव डॉक शिपबिल्डर्स लिमिटेड

(भारत सरकार का उपक्रम)

Mazagon Dock Shipbuilders Ltd.

(Formerly Mazagon Dock Limited)

(A Govt. of India Undertaking)

CIN : U35100MH1934GOI002079

डॉकयार्ड रोड, माझगांव, मुंबई - 400 010

Dockyard Road, Mazagon, Mumbai - 400 010

Certified - ISO 9001-2015

संदर्भ क्रमांक

Ref. No.

दिनांक

Date

17 Oct 2022

To
BSE Limited
Phiroze Jeejeebhoy Towers
Dalal Street,
Mumbai- 400 001
Scrip Code: 543237

To
National Stock Exchange of
India Limited
Exchange Plaza, C-1, Block G
Bandra Kurla Complex
Bandra (E), Mumbai - 400 051
NSE Symbol: MAZDOCK

Sub: Intimation under Regulation 30 of SEBI (Listing Obligations and Disclosures Requirements) Regulations, 2015 –Publication.

Dear Sir,

1. Further to our letter dated 10 Oct 2022, CMD Interview and write-up on Mazagon Dock Shipbuilders Limited to be published in Showdaily platform during DEFEXPO 2022 are attached herewith for your reference.
2. This is for your kind information.

Thanking You,
Yours Faithfully,
For MAZAGON DOCK SHIPBUILDERS LIMITED

VIJAYALAKSHMI
MI KAMAL
KUMAR
Digitally signed by
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(Vijayalakshmi Kumar)
Company Secretary

Encl: as above



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CMD INTERVIEW FOR SHOW DAILY, DEFEXPO- 2022

1. Over these decades, Mazagon Dock Shipbuilders Limited (MDL) has grown to become the premier war-shipbuilding yard in India. What are the major milestones in the success journey?

Ans: MDL, today, is the premier shipbuilding yard in the country, producing world class state of the art warships and submarines. Over the last six decades, MDL has delivered over 799 vessels which include 26 capital warships and 06 submarines. In commercial sector, 631 vessels have been built out of which 243 vessels have been exported to countries such as Mexico, France, UK, Iran, Yemen, Mozambique etc. Presently ships built at MDL form sharpest cutting edge platforms for the Indian Navy.

Following are MDL's major milestones in the last couple of decades:

- a) Delivery of four Scorpene class submarines to Indian Navy under project 75.
- b) Delivery of first Visakhapatnam class Guided Missile Destroyer to Indian Navy under project 15B.
- c) Delivery of three in Nos Kolkata class Guided Missile Destroyers to Indian Navy under Project 15A.
- d) Delivery of three in Nos Shivalik class Stealth Frigates to Indian Navy under project 17.
- e) Commissioning of Mazdock Modernisation Project (MMP) has enhanced MDL's capacity of warship building from 8 to 10 and submarine building from 6 to 11. With the existing infrastructure & facilities, MDL has become India's only shipyard to possess two independent submarine assembly & launch lines.
- f) Successful launch of MDL IPO in end Sep 20; listing on 12 Oct 20 at NSE & BSE which was Oversubscribed by more than 157 times.
- g) Successful launch of 01 Missile Guided Destroyer, 02 Stealth Frigates & 1 Submarine in the year 2022.

2. Over the last few years, MDL has increased its focus on indigenisation and indigenous content. Tell us about your 'Make-in-India' Initiatives?

Ans: MDL has set-up a dedicated Department of Indigenisation in Oct 2015 to boost and strengthen the indigenisation effort and to provide focused impetus to the Hon'ble Prime Minister's vision of "Make-in-India".

Indigenous warship building has been a distinct success story in our attempt to be self-reliant in Defence through Make in India policy. Today the country is capable of building Destroyers, Frigates, Corvettes as well as strategic submarines. Indigenous contents have steadily

increased in these construction programs and presently it is pegged at 72-75%. More can be done in this direction by a collaborative approach amongst all stakeholders.

MDL has launched a separate "Atmanirbhar Bharat" Webpage in the company's website. The process of indigenisation, various items/equipment indigenised, items required to be indigenized (Eols) are displayed under the webpage. Success stories of indigenisation are published on MDL website as a compendium of items indigenised.

MDL has indigenised 25 items/equipment/systems. Most of the items are being procured by Services/ Shipyards which has resulted AtmaNirbharta and considerable savings in Foreign Exchange. The contribution of MDL in the Positive Indigenisation List (PIL) published by Hon Raksha Mantri are as follows: PIL-1:- 05 items, PIL:-2: 06 items and PIL-3:- 134 items.

Once these items are indigenised by Indian industry, it will give a big thrust on self-reliance and will have big potential on Export also.

3. Do you have export orders or planning to move in this direction?

Ans: MDL has submitted proposals for Exports to various countries viz. Brazil, Peru, Argentina, Philippines, Hungary, Sierra Leone, Chile, Cameroon, etc. for construction & delivery of OPVs, FPVs, FICs, Floating Docks, Flat Bottom Shallow Boats, FAC and Corvettes.

MDL has been selected as the preferred production partner to undertake major ship construction activities for M/s SSK Zvezda Shipbuilding Complex, Russia. Zvezda Shipbuilding complex (SBC) is ambitious on development of a shipbuilding cluster in the far-east Russia and the project will open up a large scale export business opportunity for India and specifically to MDL in future as the envisaged quantum of work is really huge spanning for years. MDL intends to take this business opportunity forward.

MDL is also participating in various Defence Exhibitions like Defexpo, Aero India etc. for marketing the products built by MDL for exploring the opportunities to increase the exports. In addition, MDL is working on diversification of products which would enhance exports.

A dedicated section has also been formed in the Submarine Division for business development and providing competitive bids to customers. MDL is also making all-out efforts to tie-up with various private companies to grab opportunities/orders from international market.

MDL is trying to penetrate other markets as well for export and some of their offerings are as follows:-

- a) Refit & Repair of Submarines
- b) Autonomous Underwater Vehicle.
- c) Electric & Solar powered vehicles
- d) Air Boat (Fan Boat)
- e) Heavy Engineering works

04. What is your current order book?

Ans: Provisional Order Book Position as on 31.08.2022 is Rs. 42,989 crores.

5. How are new age technologies like Artificial Intelligence, Internet of Things, 3D Printing, Robotics being implemented to improve the ship building process and ensure quicker delivery of projects?

Ans: MDL has setup a state of the art Virtual Reality Centre leading to the reduction in physical effort to understand and analyse complex issues in compartment layouts of ship building. Any clashes between laying of piping cables ventilation duct etc. is virtually visualised in office environment and is resolved in the design stage itself. In addition to VRC, MDL, in collaboration with IITM, Chennai, has developed AI based machines and methods for various key processes of Shipbuilding. Artificial Intelligence enabled Robotic Weld Inspection tool using phased array technic to replace manual radiography is one of them.

Submarine division adopt stringent quality norms with very low margins of tolerance in the construction process. MDL has also implemented Quality Management System certified with ISO 9001:2015 for Design, Development, Construction, Refits and Test & Trials of Submarine to meet the International standards of quality.

Q6. What are MDL's initiatives towards diversification and R&D?

Ans: With respect to new orders, MDL is looking at a multi-pronged approach:

a) MDL has embarked on a diversification drive. MDL is venturing into the business of shipping container manufacturing and has already bagged two orders from M/s Container Corporation of India Ltd (CONCOR) totalling to 2500 containers.

b) MDL has also been awarded an order for repair of a launch boat from MbPT. In addition, MDL is also bidding for refit orders for other naval, domestic and foreign commercial vessels.

c) MDL has initiated design and development of indigenous MDL conventional Submarine. Towards achieving the goal, MDL has completed concept design of Midget Submarine and the detailed design is in progress.

d) Construction of Midget Submarine prototype is likely to commence by end 2022.

e) Hydrogen Fuel Cell Vessel- MDL in collaboration with M/s Tata Advanced Systems & M/s Vijai Marine Service has developed a 06 Pax Fuel cell electric vessel and as a pilot is currently developing 24 Pax Fuel Cell electric vessel for inland waterways. These vessels are eco-friendly with zero emissions, low acoustic & heat signatures and longer endurance.

f) Also, in accordance with Mission Raksha Gyan Shakti (MRGS) an initiative of Ministry of Defence, MDL has received 05 Patent grants from Indian Patent Office (IPO) and further pursuing cases for grant of IPR under MRGS.

WRITE-UP ON MDL

Mazagon Dock Shipbuilders Limited (MDL) was established over 200 years ago, in the year 1774. Taken over by the Government of India and established as Public Sector Undertaking under Ministry of Defence in 1960. MDL is the premier shipbuilding yard in the country, producing world class Weapons and Sensors intensive state-of-the-art, warships and submarines. MDL has built 799 vessels, including 26 capital warships and 6 conventional submarines and exported 243 vessels. In addition, MDL is undertaking repairs of ships and submarines.

MDL is presently building 04 Advanced Stealth Frigates, 04 Guided Missile Destroyers and 06 submarines. Of these, one Destroyer and 04 submarines have already been delivered. One more Destroyer and one Scorpene Submarine is planned for delivery this year.

MDL has embarked on a diversification drive by reviving the Ship Repairs & Maintenance besides venturing into the business of shipping container manufacturing and has already bagged two orders from M/s Container Corporation of India Ltd (CONCOR) totalling to 2500 containers into allied sectors as well. In order to stay competitive in the changing times and have an upper edge, MDL has initiated many R&D projects including Design & Construction of Midget submarines, has developed Hydrogen Fuel Cell powered Vessel for inland waterways and developed various Artificial Intelligence (AI) enabled products like Remotely Operated Vehicle, AI-Radiography Testing and AI-Ultrasonic Testing. Also, in accordance with Mission Raksha Gyan Shakti (MRGS) an initiative of Ministry of Defence, MDL has received 05 Patent grants from Indian Patent Office (IPO) and further pursuing cases for grant of IPR under MRGS.

MDL has completed modernisation and upgradation to contemporary world class infrastructure and facilities with Virtual Reality Lab, Product Data management, Product Life Cycle Management; Modular Integrated construction which enables us this capability and capacity to construct/repair 10 warships and 11 submarines simultaneously.

Vision and Mission of MDL is that we shall strive to be progressive and profitable shipyard building world class warships and submarines using state-of-the-art technology and to deliver quality ships in time within the budgeted costs and endeavour to become one of the world leaders in warship building.

STRIDES MADE BY MDL IN ARTIFICIAL INTELLIGENCE, EXPORTS & DIVERSIFICATION BY SHIPBUILDING DIVISION

ARTIFICIAL INTELLIGENCE

Artificial Intelligence is the 'disruptive' technology which is often used to describe machines that mimic "cognitive" functions of human mind, such as "learning" and "problem solving" to avoid the errors and inefficiencies. Marrying of an industry which has prehistoric roots, with the latest technology in vogue to leverage its full potential is the real challenge for those attempts to implement the Artificial Intelligence (AI) in Shipbuilding.

Mazagon Dock Shipbuilders Ltd has developed three AI projects:

- (a) Artificial intelligence enabled computerized Radiography:
 - The storage and preservation of films on reusable imaging plates for which data can be stored in the digital format
 - No darkroom condition, chemical and consumables is required
 - Short processing time
 - Digital films can be stored in computer, cloud or remote network server
 - Using the Computerized Radiography (CR) approach enables efficient archiving of the data with no degradation of the quality of the image.
 - Digital Films cannot be tampered, ensuring more reliable data
 - Very cheap considering the re-usability
 - Environment friendly

- (b) AI based robotic weld inspection tool using phased array ultra sound technic (PAUT):
 - Portable
 - Able to detect and obtain the images of defects based on the physics of ultrasonic waves in welded structures
 - Perform robotic weld inspection at area where accessibility is limited. This reduces the requirement of scaffoldings and saves time & cost
 - Perform automated evaluation of defect detection using AI based tools
 - Safe and quick
 - Ease for test set-up
 - Rapid inspections with digital recording of data

- (c) AI enabled Remotely Operated Vehicle (ROV):
 - Advanced control system for easy operation
 - Maximum depth rating: 50 m
 - Modern optical and Sonar based survey
 - Hydrodynamic open frame design
 - Assisted obstacle avoidance
 - High thrust and manoeuvrability
 - High definition real time visual system
 - Ultrasonic thickness measurement

- Deployable up to sea state 3

More industry specific AI projects are in pipeline at MDL to meet the increasing demand for automating the processes, cost estimation, planning, procurement and production

ROLE IN EXPORTS

Mazagon Dock Shipbuilders Ltd (MDL) is the premier Defence Shipyard in India primarily catering to the Maritime Defence of our country by building frontline Warships and Submarines.

MDL in the past had exported 243 numbers of vessels in the Commercial sector to various countries abroad. MDL was fully engaged with Indian Naval Ships for last decade and now focused attempts are being made to enter into the export market both in Commercial and Naval sectors. Accordingly, responses were provided to requirements of various countries and it is hopeful that MDL will be able to bag exports orders in near future

MDL'S export portfolio covers a wide gamut of products comprising of New Builds for civilian and military end-use, repairs of commercial vessels and refits of war vessels. Customized service portfolios wherein MDL can pitch-in as a Know-How Provider for specific needs of developing nations are also in the offer.

Efforts are on for pursuing exports with various countries following both the G2G route wherein the Govt have opened Lines of Credit with funding typically extended by EXIM bank as well as the B2B route with sovereign guarantee of the recipient nation. MDL's rich legacy of building close to 800 ships since inception, a broad spectrum of exports carried out in the past of around 250 vessels, the impeccable quality of the products delivered that has been internationally acclaimed are all being leveraged in a concerted manner for exports.

INNOVATION AND DIVERSIFICATION

MDL has a legacy of Warship and Submarine construction since 1960s with the Nilgiri Frigates being the first of class. The shipyard has undertaken construction of Complex Frontline Warships for Indian Navy, fitted with state-of-the-art machinery and systems. The shipyard has always been the leader in undertaking the construction of the First of Class of all large and complex warships for Indian Navy. Thereafter MDL has guided other DPSU shipyards for follow on constructions.

MDL committed to pursue application oriented innovative/ research activities in the areas of value addition and product/process up gradation of warship building, submarines and merchant ships with a view to achieve self-reliance in these areas, practices that are at par with global standards which will also meet the quality aspirations of the customer. MDL always strive to imbibe 'Industry best practices' customized and adopted for the key processes of Ship building

MDL has entered into collaborations with various institutions and associate with various industries to initiate and carry out innovative/R&D activities. MDL, in

collaboration, developed three Nos of Artificial intelligence enabled projects having wide scope of application.

MDL is conversant with Computational Fluid Dynamics (CFD), Finite Element Analysis (FEM) and developed innovative shaft alignment procedure which are crucial for front line warships. MDL has developed the state-of-the-art basic designs of Naval & Commercial vessels, incorporating advanced and optimized equipment, machineries, weapon and arrangement etc. MDL implemented Product Data Management/Product lifecycle Management (PDM/PLM) for warships under construction. MDL also resorted to Integrated Construction(IC) for P17A ships with the hand holding of Know How Provider for Technology Up gradation and Capacity Enhancement (KHP for TUCE).

Considering MDLs innovation/R&D, MDL is awarded an In- house R&D unit by Department of Scientific and Industrial Research (DSIR) from 2017. MDL is a regular recipient of Golden Pea cock award and SODET award for the R&D innovations implemented at MDL.

As a part of diversification, MDL initiated Commercial ship repair after a long time. MDL is also exploring the possibility of diversifying to other areas also pertaining to Shipping industry

MARKETING

MDL is exploring possibility of obtaining Naval and commercial ship orders from regional and upcoming markets in the developing nations worldwide. MDL is engaging the services of agents, Defence Attache, MEA, EXIM Bank, Indian Consulates, Chamber of commerce, ship broking companies in order to identify the requirements.

Efforts are on for pursuing exports with various countries following both the G2G route wherein the Govt have opened Lines of Credit with funding typically extended by EXIM bank as well as the B2B route with sovereign guarantee of the recipient nation. MDL's rich legacy of building close to 800 ships since inception, a broad spectrum of exports carried out in the past comprising about 250 vessels, the impeccable quality of the products delivered that has been internationally acclaimed are all being leveraged in a concerted manner for exports.