



## 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, Mazgaon, Mumbai - 400 010

Certified - ISO 9001 : 2008

संदर्भ क्रमांक

Ref. No.

दिनांक

Date

03 Mar 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. We are enclosing herewith a copy of the questionnaire by Geopolitics Magazine to be published in their magazine during DEFEXPO 22 from 10 March 2022 onwards.
2. The above information is submitted in terms of Regulation 30 of SEBI (Listing Obligations and Disclosures Requirements) Regulations, 2015.

This is for your kind information.

Thanking You,

Yours Faithfully,

For MAZAGON DOCK SHIPBUILDERS LIMITED

(Vijayalakshmi Kumar)

Company Secretary

Encl: as above



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## REPLIES OF GEOPOLITICS QUESTIONNAIRE

**1. What are the future warship building programmes being considered at MDL?**

**Ans.** MDL has submitted bids to Indian Navy & Indian Cost Guard for various Naval platforms worth Rs. 24,000 Cr.

MDL has also 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

In addition, MDL has also submitted bids for following projects:

- (i) Acquisition of 08 Fast Patrol Vessels (FPV) for Indian Coast Guard, Acceptance of Necessity (AoN) - Rs. 803.68 Cr
- (ii) Repair/ Refit of 01 MRLC-2, 01 MRLC-3, 01 MRLC-4; Estimated value - Rs. 5200 Cr
- (iii) Retro fitment of AIP on 06 P75 Submarine, Estimated value - Rs. 18000 Cr

Further, MDL is competing for two big ticket orders including construction of 06 Nos. P75(I) Conventional Submarines fitted with AIP package worth Rs 45,000 Cr and 05 Nos. New Generation Destroyers (NGDs) worth Rs. 50,000 Cr.

**2. What are the major indigenisation initiatives that have taken place in warship building over the last few years?**

**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".

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 (EoIs) are displayed under the webpage. Success stories of indigenisation are published on MDL website as a compendium of items indigenised.

MDL has hosted 404 imported items for around Rs 2034 Crores on the MoD/DDP initiated website [www.srijandefence.gov.in](http://www.srijandefence.gov.in). MDL is interacting with the Indian firms showing interest in listed products.

MDL is in the process of floating two challenges in Defence India Start-up Challenge (DISC) -6 and it also floated one challenge under DISC-5 organised by iDEX (Innovation for Defence

Excellence)

MDL has indigenised 20 items/equipment which if procured from indigenised sources would result in considerable savings in Foreign Exchequer. Currently indigenisation of 09 major items/equipment through Indian Industries is in progress. Out of 09 items, 02 items are being indigenised under MAKE II process.

**3. How is the Scorpene programme progressing and when will MDL commence the refit of the first submarine?**

Ans- The construction of submarines of the Scorpene Project P75 at MDL is presently at a very advanced stage wherein 04 out of the six submarines have already been delivered to Indian Navy and are being deployed for their combat role in defending our Indian maritime boundaries. The fifth submarine Vagir has already commenced sea trials and is planned for delivery in 2022 and the last submarine is planned to be delivered by 2024.

The Normal (long) refit of the first submarine is likely to be in end 2024 / early 2025, wherein the fitment of the Ingeniously (NMRL) developed Air Independent Propulsion is planned for integration into the submarine.

**4. Please provide an update on the medium refit and Life Certification being undertaken for IN SSK's by MDL?**

Ans- Medium Refit with Life Certification(MRLC) of INS Shishumar contract awarded to MDL in Jul 2018 with an order value of Rs. 1342 Cr. MDL is the Prime Contractor and M/s Thyssen Krupp Marine Systems(TKMS), Germany is the Prime Sub-Contractor.

Major milestones such as cutting of Pressure Hull, degutting of all equipment from the submarine, Survey & Repair of Pressure Hull, embarkation of Main Propulsion Motor, Joining of Pressure Hull, Embarkation of Diesel Generators and mounting of Propeller have been completed.

Presently, MRLC is in advanced stage of outfitting with all major equipment installed onboard. Setting to Work (STW) and Harbour Acceptance Trials (HATs) are in progress. Also preparations for major milestones of Battery Loading & Separation are in progress.

The project is impacted by Covid-19 pandemic situation & associated delays in material supply from Indian & Foreign OEMs. MDL has initiated the process for mitigation of delays by crashing of balance activities, pro-active planning, increased in-house resources and sub-contracting, wherever feasible.

5. **MDL was the first shipyard in India to establish a Virtual Reality Lab (VRL), please elaborate?**

**Ans- Ans:** Virtual Reality is implemented in MDL as part of yard's migration to Industry 4.0 standards. The Virtual Reality Centre (VRC) set-up at MDL's Design Department is first of its kind in the shipbuilding industry. The VRC consists of a large sized screen (20' x 8') equipped with rear end high definition projectors that produce a 3 Dimensional Stereoscopic Immersive Environment.

The VRC facilitates the visualization of the entire warship and critical & complex compartments like Engine Room, Steering Gear compartment, Operation Room and enclosed Bridge at the detailed design stage. The users of the VR can be layout designers, ergonomics experts, system operators, ship staff, and naval architects. VR installation is a step towards keeping with the latest technology and attaining higher customer satisfaction which can also visualize the end product well prior to construction.

The appreciation of Ergonomics and Human Factor Engineering take prominence with the implementation of VRC as it allows to check and inspect habitability/ergonomics /user feedback/walk through review by user / operator and anthropometric dimensional analysis with a human model/mannequin.

6. **How is MDL preparing for the growing shift towards digital manufacturing, Industry 4.0, use of AI and Big Data in warship manufacture?**

**Ans:** As elaborated above, 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. MDL has also developed an Artificial Intelligence enabled Remotely Operated Vehicle (ROV) with collaboration of IIT Madras and in the process of induction and also commercialisation.

7. **Please elaborate on MDL's partnerships with foreign shipyards?**

**Ans:** 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 of 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.