

## DRDO ship set to embark on mission Sagar Maitri

Kochi: In line with the prime minister Narendra Modi's neighbourhood first policy SAGAR (Security and Growth for All in the Region), the ministry of defence is set to launch a strategic-cum-scientific oceanic expedition from Kochi to enhance collaboration with eight Indian Ocean Rim (IOR) nations. According to sources, the mission named Sagar Maitri-2 (Marine and Allied Interdisciplinary Training and Research Initiative) will be implemented by the Defence Research and Development Organisation's (DRDO) Kochi-based Naval Physical and Oceanographic Laboratory (NPOL).

As part of the mission, NPOL's marine acoustic research vessel INS Sagardhwani will embark on a two-month long voyage to visit four eastern IOR nations — Thailand, Malaysia, Singapore and Indonesia — in the first phase with an aim to bolster cooperation in oceanic research and development. The mission also aims at sea strategic and scientific data collection from the entire north Indian Ocean with immediate focus on the Andaman Sea.

INS Sagardhwani, manned and maintained by the Navy for NPOL, will be flagged off by department of defence R&D secretary and DRDO chairman G Satheesh Reddy at the Southern Naval Command (SNC) on Thursday evening in the presence of SNC chief Vice Admiral A K Chawla, director general (naval systems and materials) Samir V Kamat, director general (PC & SI) S Guru Prasad, and NPOL director S Vijayan Pillai.

“During the visit, around 15 scientists from the Ocean Science group of NPOL, which is engaged in the development of SONAR (Sound Navigation and Ranging) and allied technologies, will interact with their counterparts in the host nations. They will share the expertise and conduct training activities in the field. Also envisaged is one-to-one interaction between India and the countries in oceanic research and underwater acoustics to promote bilateral ties. The ship is expected to return by September first week,” source said.

The programme commemorates the golden jubilee celebrations of the now decommissioned research ship INS Kistna's mission as part of its historic International Indian Ocean Expeditions (IIOE) held during 1962-65. Sagardhwani has already completed Track-1 of Sagar Maitri mission with a visit to Myanmar in April.

The indigenously built INS Sagardhwani was commissioned on July 30, 1994. The ship is fitted with state-of-the-art equipment, including the latest wave height measuring radar, and is exclusively used for the scientific and research programmes of NPOL.

<https://timesofindia.indiatimes.com/city/kochi/drdo-ship-set-to-embark-on-mission-sagar-maitri/articleshow/70251731.cms>



## Sagardhwani to embark on 2-month mission

*G Satheesh Reddy, Secretary, Department of Defence R&D and Chairman, DRDO will flag off the vessel from South Jetty, Southern Naval Command (SNC), Kochi*

Kochi: INS Sagardhwani, an oceanographic research vessel operated and maintained by the Indian Navy for the Naval Physical & Oceanographic Laboratory (NPOL), will embark on a two-month-long Sagar Maitri Mission-2 on Thursday.

G Satheesh Reddy, Secretary, Department of Defence R&D and Chairman, DRDO will flag off the vessel from South Jetty, Southern Naval Command (SNC), Kochi.



Sagar Maitri is a unique initiative of NPOL/DRDO, which aligns with the broad objective of PM's policy declaration 'Safety And Growth for All in the Region (SAGAR), aimed to promote closer co-operation in socio-economic aspects as well as greater scientific

interaction, especially in ocean research among Indian Ocean Rim (IOR) countries Oman, Maldives, Sri Lanka, Thailand, Malaysia, Singapore, Indonesia and Myanmar, a release said here on Tuesday. NPOL's at-sea data collection activities are spearheaded by INS Sagardhwani, which conducts ocean research experiments in the Indian waters. Under the aegis of PM's policy, DRDO's specific scientific component is 'MAITRI' or Marine & Allied Interdisciplinary Training and Research Initiative.

<http://www.newindianexpress.com/cities/kochi/2019/jul/17/sagardhwani-to-embark-on-2-month-mission-2004984.html>



Wed, 17 July 2019

## With missile orders worth ₹8,000 cr., BDL making great strides

*We plan to make third-generation missiles soon, says CMD Siddharth Mishra*

Hyderabad: The Bharat Dynamics Limited (BDL), celebrating its golden jubilee this year, has orders worth ₹8,000 crore for making various missiles for the armed forces to be delivered within the next five years. This order is expected to reach up to ₹25,000 crore in the next four-five years even as it ramps up the production of next-generation missiles.

Working under the Ministry of Defence, the BDL has also entered into a pact with IIIT-Hyderabad for making use of artificial intelligence in the development of systems and products. Further, it would be tying up with T-Hub for developing an eco-system for start-ups to solve problems through hackathons, said chairman and managing director Commodore (retd) Siddharth Mishra on Tuesday.



### More exports

Addressing a press conference on the institute premises at Kanchanbagh, Mr. Mishra said the BDL has also begun exports and has just completed the first consignment of missiles to a "friendly country", with more orders in the pipeline. It was game for more exports depending on the demand and permissions obtained from the Government of India.

Established this day in 1970 as a manufacturing base of guided missiles and allied defence equipment to meet the Indian armed forces' requirement, it began work with Anti-Tank Guided Missile (ATGM) SS11B1 under technical collaboration with Aerospatiale of France. It now works in partnership with the DRDO and armed forces in making the latest missile systems.

The company currently makes ATGMs, Akash surface-to-air missiles, torpedos, seeker-based multi-role air defence missile or the MRSAM – medium-range surface-to-air missile – being jointly developed by the DRDO, IAI (Israel) and others.

It has also been in the process of collaborating with various original equipment manufacturers for technology transfers for next-generation missiles. A pact with British Thales is already through for ‘Starstreak missiles’. “We are now making second-generation missiles and plan to go for third-generation ones soon. The international market has players making fourth and fifth-generation missiles,” admitted Commadore Mishra, candidly.

A listed firm in Bombay Stock Exchange (BSE) and National Stock Exchange (NSE), the BDL had a turnover of ₹4,586 crore in 2017-18 up from ₹3,069 crore the previous year. It is to spend ₹90 crore to improve infrastructure facilities here at Ibrahimpatnam and another ₹300 crore once the orders start coming for a new facility at Amravati in Maharashtra. The BDL has a third manufacturing unit, an exclusive naval unit, in Visakhapatnam in Andhra Pradesh where it manufactures torpedoes and other underwater weaponry for the Indian Navy.

Commadore Mishra added that the BDL would soon unveil a statue of former President A.P.J. Abdul Kalam near the front gate of the Kanchanbagh unit to commemorate his vision for the Integrated Guided Missile Development Programme, which gave a lot of opportunities to develop its skilled manpower and invest in high-end technology to make various types of missiles as it was the prime production agency.

<https://www.thehindu.com/news/cities/Hyderabad/with-missile-orders-worth-8000-cr-bdl-making-great-strides/article28492935.ece>



Wed, 17 July 2019

## **Bharat Dynamics eyeing ₹25,000 cr order book in next four years**

*To step up missile exports, offset engagements*

*By V. Rishi Kumar*

Defence PSU Bharat Dynamics Ltd (BDL) is executing orders worth over Rs 8,000 crore and expects the order book to swell to Rs 25,000 crore over the next three to four years.

Upbeat on the business prospects and further strengthening its engagements, the defence PSU is set to celebrate its 50th year of formation.

The company has been supplying to the country’s defence sector and lately to a neighbouring friendly country, Siddharth Mishra, Chairman and Managing Director of BDL said “the company has been mandated to step up exports to about 10 per cent of its business and we look forward to achieving this goal.”

### **New Facility**

BDL is also in the process of setting up of a facility at Amravati in Maharashtra where it expects to invest about Rs 300 crore. It has already made land acquisition and all clearances are in place. Once we secure orders, the facility would be developed, the CMD explained.

While it is engaged in the manufacture of second generation of missile systems, it is working on the third generation range and expects to roll them out by next year.

Providing details of the PSU functioning and the way forward, the CMD said in the years to come, BDL expects optimisation of existing production lines, maximising the geostatic reach by increasing

exports and indigenisation, work towards co-development with design agencies for new projects, take up more offset projects with global OEMs and suppliers and upgradation of manufacturing through innovation.

Apart from its engagements in co-development programmes with the Defence Research and Development Organisation (DRDO) for QR SAM, Akash 1S, Akash NG, ASTRA and Sonobuoys, BDL is entering into new domains.

As a part of its growing engagements and potential to tap the defence Offset business, it is also under discussions with various OEMs to get new technologies. It has signed up with Thales of UK for Starstreak missiles.

BDL is currently manufacturing Anti-Tank Guided missiles, Milan 2T, Konkurs-m, Invar, Surface to Air Missile Akash, Medium range Surface to air underwater weapon like Torpedo and counter measures Dispensing Systems for various aircraft platforms.

Listed on the BSE in March 2018, the company had closed 2017-18 with revenues of Rs 4,586 crore. However, the revenues were down to Rs 3,069 crore last fiscal as the order book addition was slower than expected timeline.

Over the years, BDL has partnered with Aerospatiale of France, Russia for Konkurs, and with Israel through joint development with DRDO among others.

It has partnered with IIIT-H for using artificial intelligence in processing systems and missiles and close to signing up with T-Hub to push to start ups.

Established in 1970, BDL manufactures and supplies missile systems to the country's armed forces. It has facilities at Kanchanbagh and Bhanur near Patancheru, and the third one at Vishakhapatnam in Andhra Pradesh. The Vizag facility manufactures underwater weapon systems, torpedos and anti torpedo decoy systems. BDL has created an exclusive facility for production and testing of surface to air missiles at Ibrahimpatnam in Telangana.

<https://www.thehindubusinessline.com/companies/bharat-dynamics-eyeing-25000-cr-order-book-in-next-five-years/article28474217.ece>