

*Fri, 12 April 2019*

## **Mission Shakti exemplary effort reflecting indigenous defence technology: DRDO**

Chairman of Defence Research and Development Organisation, DRDO, G Satheesh Reddy has said that Mission Shakti is an exemplary effort reflecting india's indigenous defence technology.

Speaking on DRDO's achievements in Defence Indigenization at a lecture in Vivekananda International Foundation in New Delhi this evening, Dr Reddy said, a continuous process is required to achieve progress in indigenous defence production in the country.

He said, the Ballistic Missile Development, BMD systems are pursued by very few countries in the world and India is one amongst them.

Speaking on A-SAT, the DRDO Chairman said, closing velocity and accuracy are two very crucial aspects of an ASAT interceptor missile test and a multistate hit to kill satellite made the execution possible in the shortest possible time. He said, more than 50 industries participated and 200 components have been realised to make A-SAT test a success.

<http://www.newsonair.com/Main-News-Details.aspx?id=362117>



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## **India and Russia seeking to extend range of BrahMos missile to 500 km**

India and Russia aim to extend the range of their jointly developed BrahMos (PJ-10) supersonic cruise missile from 400 km to 500 km, an official from the joint venture (JV) responsible for producing the weapon system told *Jane's* on 10 April.

“We have already demonstrated the missile’s capability to engage targets at a distance of more than 400 km, and work on further extending the range, possibly to 500 km, is now being conducted. The flight speed of the weapon will also be increased,” said the official from BrahMos Aerospace, a JV between India’s Defence Research and Development Organisation (DRDO) and Russia’s NPO Mashinostroyeniya (NPOM).

The proposed extended-range (ER) BrahMos variant has been fitted with a Russian-designed seeker and is expected to be capable of being fired from land and sea-based platforms, said the official. The new variant of the radar-guided missile will carry the same amount of fuel as the earlier versions, but will be fitted with an enhanced computer-controlled injector system that will better regulate the flow of fuel into the engine’s combustor, thus greatly improving efficiency, the source added.

Currently the missile flies at a top speed of Mach 2.8, but modernisation work is expected to enable the weapon to reach speeds of more than Mach 4.5, BrahMos Aerospace managing co-director Alexander Maksichev was quoted by Russian news agency Sputnik as saying on 8 April.

During President Vladimir Putin's visit to India in October 2016, Moscow and New Delhi signed an agreement to co-develop the BrahMos-ER. The deal only became possible after India had joined the multinational Missile Technology Control Regime (MTCR) four months earlier in a move that allowed the country to co-develop missile systems with ranges of more than 300 km.

MTCR restrictions had earlier prohibited Russia from transferring critical systems to India's Defence Research and Development Organisation (DRDO) that would have enabled it to increase the missile system's range.

The original BrahMos missile is based on the Yakhont (3M-55E) supersonic cruise missile, which is the export version of Russia's domestic P-800 (3M-55) Oniks missile. First tested in mid-2001, the BrahMos was designed to be launched from land-based platforms, ships, aircraft, and submarines.

The land- and ship-launched versions have been in service with the Indian Army and Indian Navy for more than a decade, while the air- and submarine-launched versions are undergoing testing.

In March 2017 a BrahMos-ER was test-launched for the first time by the DRDO to a range of more than 400 km.

Eight months later, India successfully test-fired the BrahMos-A (Air) missile for the first time from a modified Russian Sukhoi Su-30MKI multirole fighter. In March 2018 the IAF test-fired the missile fitted with an indigenously developed seeker. The BrahMos-A is reportedly fitted with a new ignition engine to enable it to be deployed at high altitudes.

The two-stage 2.5-tonne BrahMos and its lighter variants are made at a facility in Hyderabad, southern India.

<https://janes.ihs.com/Janes/Display/1859702>

## THE ECONOMIC TIMES

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### Inputs for Rs 40,000 crore submarines

*Keen on Indian steel, missiles, torpedoes & air independent propulsion to construct six new submarines domestically*

*By Manu Pubby*

New Delhi: The navy wants Indian steel, missiles, torpedoes and an indigenously developed air independent propulsion system for its Rs 40,000-crore project to construct six new submarines domestically, one of the largest 'Make in India' military orders currently being processed by the government.

The project, which has been moving faster than another mega plan to build 110 fighter jets in India, has been taken forward with the navy sharing its draft requirements with foreign players who are to share technology with Indian partners to produce the next generation of submarines.

The requirements, which will be finalised in the coming months before being formally issued to all competitors, make a strong case for Indian systems to be fitted on the submarines with at least 45% indigenisation content.

The new technology that will differentiate these submarines is Air Independent Propulsion (AIP), a technology that enables the boats to stay underwater for weeks, unlike earlier models where they have to surface after

**Indian All the Way**

**Navy shares draft requirements, wants at least 45% indigenisation content**

**Incentives for increasing indigenisation beyond 45%**

**Indian steel to be used, locally developed AIP to be integrated**

**Brahmos torpedo tube launched cruise missile, heavy weight torpedo needs to be integrated**

**Contentious clause on right of the domestic shipyard to export the subs after meeting Indian requirements**

a few days to recharge batteries and take in oxygen.

As per the draft requirements, foreign players have to certify that they will integrate a 'proven indigenous AIP' if required by the navy. This would be a reference to an AIP that is currently under development by DRDO and is being shore tested as of now.

The navy has also stated that it wants to utilise indigenously developed steel for the construction of the submarines as far as possible.

In fact, the navy will include special incentives in the programme for foreign players that use Indian steel for the programme. The biggest boost for Indian developed systems is the requirement for foreign vendors to ensure that an indigenously developed heavy weight torpedo has to be integrated to the submarines.

The project is currently being undertaken by DRDO that has already supplied such torpedoes for warships and is working on a submarine launched version as well.

India's missile programme also finds mentions in the requirements, with the navy set to mandate that the submarine torpedo launched cruise missiles (SLCM) being developed domestically are to be a part of the weapon suite. The Brahmos missile complex is currently working on a next generation missile to meet such requirements. The submarines to be built are to have a minimum service life of 30 years and would have to be upgraded and served in India throughout this period.

However, one clause that the navy has put in its draft requirements that mandates all copyrights for the submarine to be vested to India may raise concern by foreign players who are to share technology.

The clause says that post the delivery of the sixth submarine, India will have the unlimited right to produce more of the submarines or modify them.

<https://economictimes.indiatimes.com/news/defence/navy-wants-local-inputs-for-rs-40000-crore-submarines-project/articleshow/68839630.cms>



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## **Global missile guidance system market 2019 forecast to 2025 by Raytheon, Thales Group, BAE Systems, DRDO, Luna and more**

*By Prateek*

Marketsresearch.biz conferred analysis report on worldwide Missile Guidance System Market 2019 by implementing an exquisite analysis procedure to assemble key knowledge of this global market. The Missile Guidance System market report covers 2014 to 2018 market outlines in conjunction with market review, division of the business, trade scope, present market, and future forecast by Key Players, and their user. The Missile Guidance System market report packs thoughtful market insights, historical data, and Qualitative and informative knowledge.

The Missile Guidance System report segments the market by the companies, end users, and their application in step with their individual knowledge as well as Market Size & Forecast, Consumption, Sales Revenue, Price, margin of profit, offer and Demand by Region, and manufacturers Profile. The study additionally studies the Missile Guidance System market in terms of volume and revenue [Million USD].

Furthermore, the Missile Guidance System market report covers crucial data relating to the business summary of market, market competition trend, major industrial competitors, and their business profile. Analysis of monetary summary, new project launches, recent development, company summary, and merchandise portfolio are lined during this report.

Geographical data can assist you perceive that locals are engaging at their best. This Missile Guidance System market report offers examination and increment pace of the market in these districts covering North America, Europe, China, Japan, Asian country, India, alternative Regions.

#### **Global missile guidance system market leading manufacturers**

Boeing

General Dynamics

Lockheed Martin

Raytheon

Thales Group

BAE Systems

DRDO

Luna

#### **Missile Guidance System Market Segmented By Type**

Command Guidance System

Homing Guidance System

Beam Rider Guidance System

Inertial And Gps Guidance System

#### **Missile Guidance System Market Segmented By Application**

Conventional Guided Missiles

Cruise Missiles

Ballistic Missiles

The experts provides the CAGR overall rate percentages of world Missile Guidance System Market to grow over the amount 2019-2025. thus this Missile Guidance System Market report offers you Preplanned Compound Annual rate of growth (CAGR) with totally different quantity, throughout the 2019-2025, Market on Missile Guidance System Report is calculable to register a CAGR of Definite worth. Definitions, classifications, applications & Business summary, product specifications, producing processes, value structures, raw materials and demand as per your alternative additionally given by this Missile Guidance System market Report.

Thus, the analysis study provides associate inclusive read of the worldwide Missile Guidance System market, providing market dimensions and evaluations for the amount from 2019 to 2025, keeping in mind the said factors. the data can assist current Missile Guidance System market manufacturers, consultants, and alternative stakeholders in operation within the market to figure out crucial ways and create informative choices.

<https://themarketresearchnews.com/2019/04/11/global-missile-guidance-system-market-2019-forecast-to-2025-by-raytheon-thales-group-bae-systems-drdo-luna-and-more/>