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# भारतीय युद्धपोत अब दुश्मनों पर भारी पड़ेंगे

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नौसेना ने शुक्रवार को सतह से हवा में मार करने वाली मध्यम दूरी की मिसाइल (एमआरएसएएम) का पहली बार दो युद्धपोतों के सहयोग से सफल परीक्षण किया। इसके साथ ही वह इस तरह की उपलब्धि हासिल करने वाली चुनिंदा नौसेनाओं में शामिल हो गई।

पश्चिमी समुद्री तट पर यह परीक्षण नौसेना के युद्धपोतों आईएनएस कोच्चि और चेन्नई द्वारा किया गया। इन दोनों युद्धपोतों से दागी गई मिसाइलों को परस्पर सहयोग के जरिये एक युद्धपोत से नियंत्रित किया गया और अलग-अलग लक्ष्यों पर निशाना लगाया गया। नौसेना ने परीक्षण रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) तथा इजरायल एयरोस्पेस इंडस्ट्रीज के सहयोग से किया।

# सभी युद्धपोतों में लगाई जाएंगी यह मिसाइल

सतह से हवा में मार करने वाली ये मिसाइलें कोलकाता श्रेणी के विध्वंसक युद्धपोतों में लगी हैं और भविष्य में बनाये जाने वाले सभी युद्धपोतों पर भी लगाई जाएंगी। इससे नौसेना की मारक क्षमता बढ़ेगी।

### समुद्र में लड़ाकू क्षमता में इजाफा होगा

इस सफल परीक्षण से भारतीय नौसेना दुनिया की उन चुनिंदा नौसेनाओं में शामिल हो गई है जो इस तरह की क्षमता से लैस है। इस क्षमता के बीच समुद्र में भारतीय युद्धपोतों की लड़ाकू क्षमता में भारी इजाफा होगा। इससे दुश्मन के पोतों पर हमारे युद्धपोत हावी होंगे।

## भारत डायनामिक्स लिमिटेड ने बनाई मिसाइल

यह परीक्षण संबंधित एजेंसियों और संगठनों की वर्षों कोशिशों का परिणाम है। डीआरडीओ की हैदराबाद स्थित प्रयोगशाला डीआरडीएल ने इजरायल एयरोस्पेस इंडस्ट्रीज लिमिटेड के साथ मिलकर यह मिसाइल विकसित की है। देश में यह मिसाइल भारत डायनामिक्स लिमिटेड ने बनाई है।

# **Business Standard**

#### New surface-to-air missile technology reduces radar signature of Navy fleet

So far, the Medium Range Surface-to-Air Missile has been deployed on three destroyers -- INS Kolkata, Chennai and Kochi. Each of them carries 32 missiles deployed in "vertical launch unit" canisters

#### By Ajai Shukla

New Delhi: The eponymous Medium Range Surface to Air Missile (MR-SAM), jointly developed by India and Israel to defend the Navy's warships against incoming anti-ship missiles, achieved a crucial landmark on Friday. MR-SAMs fired simultaneously from different vessels were directed to two different targets by a single warship, allowing a naval flotilla to reduce its give-away electromagnetic signature.

Warships typically switch on their multi-function surveillance and target acquisition radar (MF-STAR) while firing an MR-SAM – usually when an incoming anti-ship missile is still over a hundred kilometres away. The radar guides the missile towards the target, bringing it close enough to allow the missile's seeker to home onto the anti-ship missile, and strike it precisely while it is still 70 kilometres away.

If a second incoming anti-ship missile is detected, another warship launches a missile to down it. But heavy electronic signatures from multiple radars make the flotilla easily detectable, allowing the enemy to target it with anti-radiation missiles (ARMs).

This vulnerability was reduced through the "cooperative engagement firing" tested on Friday. Two navy destroyers INS Kochi and Chennai fired MR-SAMs simultaneously at two simulated incoming missiles. But then, INS Chennai kept its radar switched off, while INS Kochi directed both missiles to the target through electronic data links.

"The missiles of both ships were controlled by one ship to intercept different aerial targets at extended ranges... The Indian Navy has become a part of a select group of navies that have this niche capability," stated the defence ministry.

This allows large naval formations – such as an aircraft carrier battle group (CBG), which typically includes a carrier, along with several large warships like destroyers or frigates – to operate with a greatly reduced "electromagnetic signature".

In a statement of confidence in the MR-SAM, which has been developed by the Defence R&D Organisation (DRDO) in cooperation with Israel Aerospace Industries (IAI) and manufactured by Bharat Dynamics Limited (BDL), the defence ministry announced that the missile system would be fitted "on all future major warships of the Indian Navy."

So far, the MR-SAM has been operationally deployed only on three destroyers -- INS Kolkata, Chennai and Kochi. Each of them carries 32 missiles deployed in "vertical launch unit" (VLU) canisters. Now they will be fitted on four more destroyers being built under Project 15B and seven frigates being constructed under Project 17A.

IAI has designed and developed about 80 per cent of the MR-SAM, including the Elta MF-STAR radar. The DRDO has designed the missile's propulsion system, including a sophisticated dual-pulse motor, thrust vector controls, and the electrical harness (wiring).

It was originally planned to deploy the MR-SAM in Indian as well as in Israeli navy warships. While BDL has received orders from the Indian navy, orders from the Israeli navy are still awaited.

The MF-STAR radar is built in Israel, as are the VLU canisters.

The DRDO says the MR-SAM project has enabled the indigenous development of a number of new technologies that will feed into new projects, such as the "quick reaction SAM (QR-SAM). Besides the dual pulse rocket motor, this includes a new smokeless propellant.

https://www.business-standard.com/article/current-affairs/new-surface-to-air-missile-technologyreduces-radar-signature-of-navy-fleet-119051701270\_1.html



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### Women must go the extra mile to attain goals: Tessy Thomas

Kochi: More women could become part of the mainstream society once they learnt how to overcome challenges that came their way, Tessy Thomas, Director General of Aeronautical Systems, DRDO, has said.

Women had many roles and responsibilities to take up each day. Taking an extra step each day was crucial to reach one's goal in life, Ms. Thomas said, after inaugurating the Women Leadership Conclave organised by the Kerala Management Association (KMA) here on Friday.

Changes must begin from within the family. The conventional notion that women must do all household chores must change. They must also view all obstacles with a positive outlook. Empowerment would happen when women were able to think for themselves and take wise decisions, she said.

Delivering the keynote address, M.S. Rajasree, Vice Chancellor of APJ Abdul Kalam Technical University, said that each woman must have clarity about her aim in life. Corporates enrolled women at the entry level to convey the message of empowerment. But there was reluctance at different levels to post them in leadership roles. This could be overcome if women networked and marketed themselves better.

Women must stand unitedly and help each other, said Suja Chandy, MD of Nissan Digital India. Dinesh P. Thampy, president of KMA, presided over the event.

https://www.thehindu.com/news/cities/Kochi/women-must-go-the-extra-mile-to-attain-goals-tessythomas/article27165287.ece