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समाचार पत्रों से चयनित अंश Newspaper Clipping

समाचार पत्रों से रक्षा अनुसंधान और विकास संगठन (डीआरडीओ) से
जुड़ी खबरों का संकलन

A compilation of news related to Defence Research and Development
Organisation (DRDO) from newspapers



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Defence Research and Development Organisation



Indonesia becomes first foreign customer of India's Astra air missile

Source: The Times of India, Dt. 08 Jul 2026

In a big boost for make-in-India weapons, Indonesia has become the first foreign customer of the country's highly-advanced beyond-visual-range air-to-air missile (BVRAAM) 'Astra', developed by **Defence Research and Development Organisation (DRDO)**.

Besides an agreement for "cooperation on BrahMos System", the pact on Astra air-to-air missile in presence of PM Narendra Modi and President Prabowo Subianto in Jakarta is significant for India's defence manufacturing industry as this missile, unlike Indo-Russian joint venture BrahMos, has been indigenously developed and manufactured without any foreign help.



Astra missile

The Astra deal was finalised through an agreement between state-run Bharat Dynamics Ltd and Indonesian defence holding company Republikorp. Astra, which like BrahMos, equally played a significant role during Operation Sindoor. With a speed of Mach 4.5, the missile can target a hostile aircraft within an engagement range between 80 to 110 km and an extended range of up to 160 km.

The missile will be integrated onto the Indonesian Air Force's fleet of Russian-made Sukhoi fighter jets, specifically the Su-30 and Su-27 platforms. Besides the deal on missiles, PM Modi talked about "extension of MoU and implementation arrangement on maritime safety and security cooperation". He said the new arrangement will strengthen cooperation between Coast Guards of two countries, improve coordination in maritime domain awareness, search and rescue and capacity building and promote safety and freedom of navigation in the Indo-Pacific".

Another key arrangement between two sides is the agreement on integrated development of Sabang Port, which overlooks the strategically important Strait of Malacca and sits just 90 nautical miles from Indira Point, the southernmost tip of the Andaman and Nicobar Islands, which has the country's tri-service command and where India is also working on a mega Great Nicobar project to enhance its national security, strategic and economic presence. An estimated 75% to 80% of China's imported crude oil transits through the strait.

Developing Sabang port will help India counter China's expanding naval footprint and port investments across the Indian Ocean. The deep-water access at Sabang will also allow the Indian Navy to easily monitor submarine and surface ship movements entering the Indian Ocean.

After the defence pacts, PM Modi posted on X that the cooperation on BrahMos system “demonstrates capability of Indian defence industry, strengthens Atmanirbhar Bharat and boosts indigenous defence capability and promotes innovation, global competitiveness and exports”. He also said the Astra deal “boosts India’s defence exports and make-in-India for the world, strengthens India’s indigenous missile development ecosystem”.

<https://timesofindia.indiatimes.com/defence/indonesia-becomes-first-foreign-customer-of-indias-astra-air-missile/articleshow/132248598.cms>

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भारत ने किया स्वदेशी 'पिनाका' लॉन्ग रेंज गाइडेड रॉकेट का सफल परीक्षण

Source: Dainik Jagran, Dt. 09 Jul 2026

भारत ने बुधवार यानी 8 जुलाई को ओडिशा के चांदीपुर स्थित इंटीग्रेटेड टेस्ट रेंज से पिनाका लॉन्ग रेंज गाइडेड रॉकेट (LRGR) का सफलतापूर्वक उड़ान परीक्षण पूरा किया। अधिकारियों ने बताया कि इस रॉकेट को 60 किलोमीटर की न्यूनतम निर्धारित सीमा (रेंज) के लिए परखा गया। रक्षा मंत्रालय के अनुसार, यह सफल परीक्षण 8 जुलाई को रक्षा अनुसंधान एवं विकास संगठन (DRDO) द्वारा किया गया।

अधिकारी ने बताया कि परीक्षण के दौरान, इस रॉकेट ने योजना के अनुरूप हवा में सभी पैंतरेबाजियों का शानदार प्रदर्शन किया। अधिकारियों ने इस बात की भी पुष्टि की है कि रॉकेट ने अपने निर्धारित पथ पर चलते हुए लक्ष्य पर बिल्कुल सटीक निशाना साधा। उड़ान के पूरे रास्ते में वहां तैनात सभी उपकरणों ने इस रॉकेट की ट्रैकिंग की।



ARDE और HEMRL ने मिलकर किया डिजाइन

इस हाईटेक पिनाका LRGR को आर्मामेंट रिसर्च एंड डेवलपमेंट एस्टेब्लिशमेंट (ARDE) और हाई एनर्जी मैटेरियल्स रिसर्च लेबोरेटरी (HEMRL) ने मिलकर डिजाइन किया है। इस प्रोजेक्ट में डिफेंस रिसर्च एंड डेवलपमेंट लेबोरेटरी (DRDL) और रिसर्च सेंटर इमारत (RCI) ने भी अपना महत्वपूर्ण सहयोग दिया है।

मंत्रालय के बयान के मुताबिक, इस उड़ान परीक्षण का समन्वय ITR और प्रूफ एंड एक्सपेरिमेंटल एस्टेब्लिशमेंट द्वारा किया गया।

सबसे खास बात यह रही कि इसे सेना में पहले से मौजूद पिनाका लॉन्चर से ही दागा गया। यह इस लॉन्चर की बहुमुखी क्षमता को साबित करता है, जिससे एक ही लॉन्चर के जरिए अलग-अलग रेंज वाले पिनाका वेरिएंट्स को लॉन्च किया जा सकता है। इस बड़ी सफलता पर रक्षा मंत्री राजनाथ सिंह ने DRDO, भारतीय सेना और रक्षा उद्योग से जुड़े सभी लोगों को बधाई दी है। उन्होंने इस उपलब्धि को लंबी दूरी के गाइडेड रॉकेटों के स्वदेशी डिजाइन और विकास की दिशा में एक "बड़ा मील का पत्थर" बताया। रक्षा सचिव और DRDO के अध्यक्ष राजेश कुमार सिंह ने भी इस पूरे परीक्षण पर करीब से नजर रखी और इस सफलता के लिए पूरी टीम के प्रयासों की जमकर सराहना की।

<https://www.jagran.com/odisha/bhubaneshwar-india-successfully-tests-pinaka-long-range-guided-rocket-in-odisha-40299588.html>

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Pinaka long-range rocket roars off launcher in DRDO's latest test

Source: The Times of India, Dt. 09 Jul 2026

The Defence Research and Development Organisation (DRDO) on Wednesday successfully conducted the flight-test of the Pinaka Long Range Guided Rocket (LRGR) at the **Integrated Test Range (ITR)** in Odisha, the defence ministry said. The successful trial marks another milestone in the development of India's indigenous long-range rocket artillery system, aimed at enhancing the Army's precision strike capability under the government's Aatmanirbhar Bharat initiative.

The latest test follows the successful maiden proof trial of the Pinaka Extended Range Rocket conducted at the Pokhran Field Firing Range in Rajasthan in March. During that exercise, 24 rockets were test-fired to validate their accuracy, consistency and lethality, with all meeting the required performance parameters before operational induction. The Pinaka Long Range Guided Rocket is the guided version of the indigenous Pinaka multi-barrel rocket launcher system and is designed to deliver precision strikes at extended ranges. The system is expected to significantly improve the Indian Army's long-range firepower while reducing dependence on imported weapon systems. Developed by DRDO with support from Indian industry, the Pinaka family of rockets has become one of the key pillars of India's indigenous artillery capability.

The system has been progressively upgraded with extended-range and guided variants to improve accuracy, range and battlefield effectiveness. The defence ministry said further details of the latest flight-test will be shared in due course. The successful trial comes as India continues to expand and modernise its indigenous missile and rocket arsenal through a series of developmental and user trials across the country.

<https://timesofindia.indiatimes.com/defence/news/drdo-successfully-flight-tests-pinaka-long-range-guided-rocket-in-odisha/articleshow/132266041.cms>

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The significance of India's Astra missiles, which Indonesia is buying

Source: The Indian Express, Dt. 09 Jul 2026

India and Indonesia on Tuesday reached a significant milestone in their growing strategic cooperation by signing a deal for the supply of the Astra Mk 1 'beyond-visual-range air-to-air missiles' (BVRAAM). The development is significant as it marks India's first export of Astra missiles to another country. These missiles will arm Indonesia's Su-30 fleet. The deal came alongside other key agreements — including the sale of BrahMos supersonic cruise missiles, major defence technology transfers, critical mineral extraction and maritime security.

Developed by the Defence Research and Development Organisation (DRDO), Astra is a family of indigenous BVRAAMs that will be integrated with the Air Force and the Navy. Beyond-visual-range (BVR) missiles are those capable of engaging beyond the range of 20 nautical miles, or 37 km. Air-to-air missiles are primarily fired from an airborne asset to destroy an airborne target. We explain the features of the Astra missiles and their strategic importance.

The missile and its variants

The first in the family, Astra Mk 1, has a range of 80 to 110 km, an altitude of up to 20 km and a speed of Mach 4.5 (or 4.5 times the speed of sound). The key features of this missile include inertial guidance, mid-course update and terminal active radar homing. The missile is being integrated with the IAF's Sukhoi-30 MKI fleet and is also planned to be integrated with the indigenous Light Combat Aircraft Tejas Mk 1 A and the French Rafale jets in future.



Last year, DRDO and the IAF successfully conducted the flight test of Astra Mk1 equipped with an indigenous radio frequency (RF) seeker from a Su-30 MKI jet. A more advanced version of the Astra Mk 1 — the Astra Mk 2 — has an enhanced range of 200 km, from the earlier decided range of around 160 km. While the Astra Mk 1 uses a single-pulse smokeless solid-fuel motor, the Astra Mk 2 is reported to be powered by a powerful dual-pulse solid rocket motor, which lets the missile conserve more energy during a flight and also reignite the motor at the terminal phase. This makes it difficult for a target to evade the missiles at long distances.

This missile variant was granted the Acceptance of Necessity by the Defence Acquisition Council in December last year, indicating the government's interest in starting the procurement process soon, even as it is still in various phases of testing. According to the Defence Ministry, they

increased the capability of the fighter aircraft “to neutralise adversary aircraft from a large standoff range”. They will also be integrated into the latest fighter jets of the IAF once inducted.

The Astra Mk 3 is still under development by the DRDO. Officially named Gandiva, it will be India’s most advanced BVRAAM. It will likely be powered by a Solid Fuel Ducted Ramjet (SFDR) engine, allowing it to maintain continuous thrust mid-flight rather than burning out like conventional rocket motors. Earlier this year, the DRDO had conducted a flight test of its SFDR technology for the Astra Mk 3, which could have a range of over 350 km.

Why is the Astra missile critical in the military’s inventory?

The missile will be a counter to the long-range PL-15 in use by both Pakistan and China. The PL-15 is an advanced, very long-range, active radar-guided air-to-air missile developed by China. Operation Sindoor, launched by India against Pakistan last year, demonstrated the criticality of longer-range BVRAAM missiles, and Astra is India’s indigenous answer to that. A key focus area of the IAF is now to procure more batches of modern BVRAAM missiles. The Astra programme will help India build greater self-reliance, instead of depending solely on other imported air-to-air missiles such as the Meteor and R-77.

Astra’s export potential

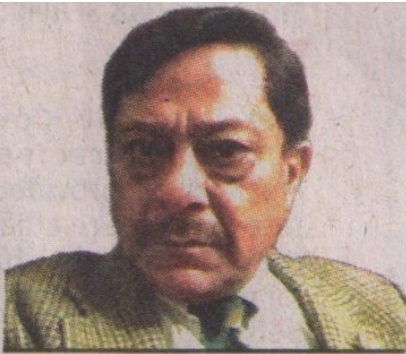
India’s deal with Indonesia, signed on Tuesday to supply Astra Mk 1 missiles, marking the first export of the missiles to another country, shows that they have good potential for export to other countries as well. India is also set to supply the BrahMos supersonic cruise missiles to Indonesia, as well as to Vietnam and the Philippines. In future, India is likely to explore other friendly countries for the sale of the Astra missiles.

<https://indianexpress.com/article/explained/the-significance-of-indias-astra-missiles-which-indonesia-is-buying-10777015/>

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High-Tech Weapons, made in India

Source: The Pioneer, Dt. 15 Jul 2026



ANIL BHAT

Made in India weapon systems looked impressive at Armenia’s Republic Day military parade on 28 May 2026. Armenia emerging as one of reportedly eighty countries a buying Indian-manufactured weapons also highlights the growing global trust in “Make in India” military technology. The proudly weapon systems that Armenia purchased from India included the Pinaka Multi-Barrel Rocket Launchers for rapid, long-distance saturation strikes; two types of highly mobile 155 mm artillery guns; Akash medium-range surface-to-air missile systems designed to intercept aircraft, drones, and cruise missiles and Swathi Weapon Locating Radars with pin-point accuracy. Armenia has recently emerged as India’s largest and primary export market for military weaponry.

Operation Sindoor launched in May 2025 confirmed that India had made immense progress in providing indigenous, state-of-the-art weapon systems to its Armed Forces. India's Defence Research and Development Organisation (DRDO) and some other Indian industrial companies demonstrated the capacity and capability to build the modern weapon systems covering strategic, air defence, air surveillance and integrated command and control sections for wide and effective air defence of the country. The key indigenous systems developed by DRDO which played a decisive role during Op Sindoor were:

- Surface-to-Air Missiles, which included the Akash Missile System, with over 96 per cent Indian content, along with medium-range missiles used for advanced area defense.
- Akashteer (meaning sky arrow) System, an automated air-defence control and reporting system which performed exceptionally well, integrating various sensors and communication frameworks into a single mobile network.
- Supersonic Cruise Missiles, produced by BRAHMOS and delivered pinpoint accuracy during strikes.
- Counter-Drone Technology included -man-portable counter-drone systems and the D4 Anti-Drone System, which were successfully utilised to jam and neutralise hostile unmanned aerial vehicles.

Former DRDO experts and top officials praised the performance of homegrown technologies, emphasising that the success in this conflict debunked prior criticisms of the organisation. Post Op Sindoor, unclassified productions by DRDO are:

India's Sudarshan Chakra

An indigenous Iron Dome, a network-centric shield capable of neutralizing ballistic missiles up to 5,000 km in range. This is a major leap forward for Mission Sudarshan Chakra (Lord Vishnu's constantly spinning celestial discus, which is a powerful symbol of divine protection), which is India's ambitious initiative to build a multi-tiered, all-encompassing air and missile defence umbrella. The goal is to develop an indigenous capability with features akin to Israel's Iron Dome and the US THAAD system, allowing India to counter everything from short-range rockets and drones to long-range ballistic threats.



Project Kusha

Under this project, DRDO has also been working on broader defense shields like the Long-Range Surface-to-Air Missile system to intercept threats at varying distances.

MIRV - AGNI V

MIRV (Multiple Independently Targetable Re-entry Vehicle) is an advanced ballistic missile technology that enables a single missile to carry and deliver multiple nuclear warheads against different targets. Integrated into the DRDO-developed Agni-V, it significantly enhances India's strategic deterrence. The successful flight trials were conducted under Mission Divyastra. The MIRV-capable Agni-V, with an estimated range of 5,000-8,000 km, releases independent warheads after re-entering the atmosphere, enabling simultaneous strikes on multiple targets while complicating enemy missile defence systems.

SHESHNAAG 150

The Sheshnaag-150 (also known as Nagraja-meaning king of serpents) is an indigenous, AI-powered long-range swarm kamikaze drone developed by Bengaluru-based NewSpace Research and Technologies (NRT) to function as a low-cost, high-impact strike system. It features a range of over 1,000 km, carries a 25-40 kg warhead, has over five hours of endurance and operates in swarms to overwhelm the enemy's defences. It is designed to operate in GPS-denied environments utilising advanced visual navigation systems. It can be launched from mobile platforms, such as a modified Toyota Hilux pickup truck. This drone aims to fill a niche for cost-effective, long-range, and high-precision strikes.

TARA

On May 7, 2026, DRDO and the Indian Air Force (IAF) successfully carried out the maiden flight-trial of India's first indigenous glide weapon system, TARA (Tactical Advanced Range Augmentation) designed to convert unguided warheads into precision guided munitions (PGMs). Jointly developed by RCI (Research Centre Imarat) and other DRDO labs, the system now in production with industry partners demonstrated the ability to extend the range of a bomb to between 150 and 180 km when released from an altitude of 5-km, with a circular error probability (CEP) of three metres. The system deploys wings and tail units after release, using inertial navigation, GPS-assisted guidance and electro-optical seekers to achieve an accuracy of under five metres.

CADET Kamikaze drones

India is rapidly advancing its asymmetric and mobile warfare capabilities through the Carrier Air Defence Tracked (CADET) system, an advanced, mobile and armoured air defence platform developed by the Indian Army. It marks a shift from static territorial defence to mobile air defence for advancing mechanised forces. The kamikaze drones include the Peacekeeper Drone, with a range of 180 km, a speed of 450 km/h and a targeting accuracy (Circular Error Probable) of less than five metres. The CSIR-NAL Heavy Drone carries a 25 kg explosive payload, has an endurance of nine hours and a maximum range of 1,000 km. The drones are resistant to jamming and spoofing, using the indigenous NAViC satellite navigation system developed by the Indian Space Research Organisation (ISRO).

India's exports of high-tech military weapon systems grew rapidly between 2022 and 2026, with total defence exports rising from ₹686 crore in FY 2013-14 to a record ₹38,424 crore in FY 2025-26, supplying over 80 countries.

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