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समाचार पत्रों से चयनित अंश
Newspapers Clippings

डीआरडीओ समुदाय को डीआरडीओ प्रौद्योगिकियों, रक्षा प्रौद्योगिकियों, रक्षा नीतियों, अंतर्राष्ट्रीय संबंधों और विज्ञान एवं प्रौद्योगिकी की नूतन जानकारी से अवगत कराने हेतु दैनिक सेवा

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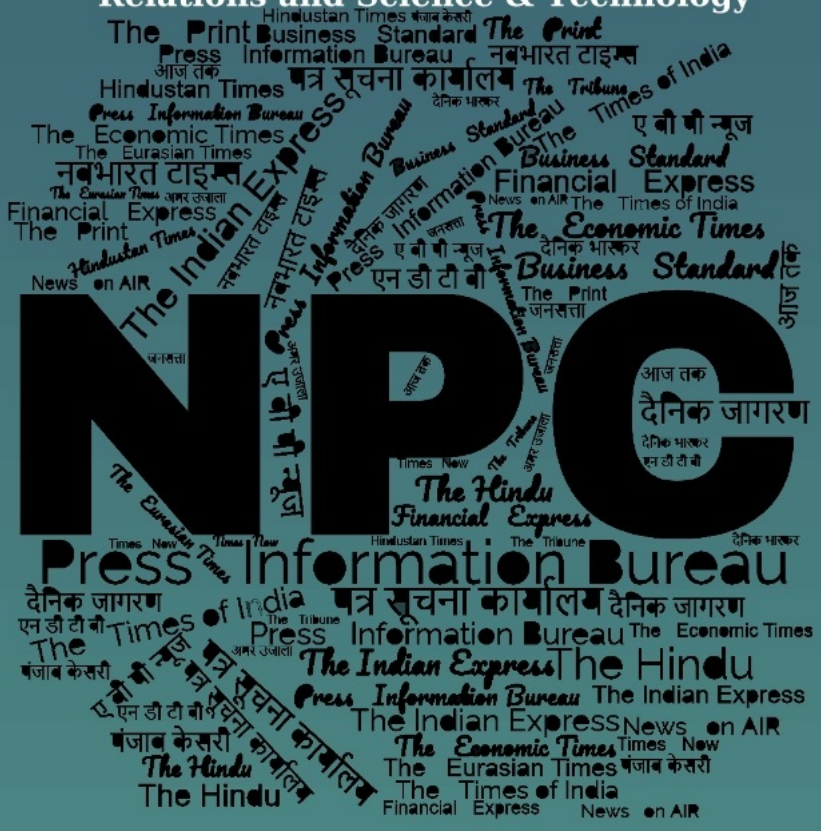

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DRDO News

DRDO opens CBRN Field Training & Demonstration Centre in Delhi

Source: Press Information Bureau, Dt. 06 May 2026

Defence Research & Development Organisation (DRDO) opened the Chemical, Biological, Radiological and Nuclear (CBRN) field training and demonstration Centre at Burari plains in Delhi on May 06, 2026. Inaugurated by Secretary, Department of Defence R&D and Chairman, DRDO Dr Samir V Kamat, the centre aims to further enhance preparedness for radiological & nuclear exigencies.

The training and demonstration center will be a unique DRDO-CBRN-Centre of Excellence comprising various state-of-the-art facilities. These include dedicated radiological and nuclear test bed facility & heavy ion research facility, along with emergency medical response and real-time field response units.

Fig: *Dr. Samir V. Kamat at inauguration of Chemical, Biological, Radiological and Nuclear (CBRN) field training and demonstration Centre*

The centre is part of upcoming CBRN Centre of Excellence under the Institute of Nuclear Medicine & Allied Sciences (INMAS) and dedicated to effective training of responders from Ministry of Defence, Ministry of Home Affairs, National Disaster Management Authority and various other agencies involved in CBRN exigencies preparedness and crisis response. Through training and workshops, INMAS will prepare the next generation of specialists to carry forward the work to the front-line as well as ensure the enrichment by introducing latest techniques & technologies.

The inauguration ceremony was attended by Director General Soldier Support System Dr Upendra Kumar Singh; Director General (Production Coordination & Services Interaction) Dr (Smt) Chandrika Kaushik; Director General Resource & Management Dr Ravindra Singh and Corporate Directors along with other dignitaries and scientists.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=2258463&reg=3&lang=1

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Union Minister Dr Jitendra Singh presents certificates and testimonials to the first batch of Scientists and Academicians receiving a formal training course in administration and governance

23 scientists from ICMR, CSIR, DSIR, DST, Ministry of Earth Sciences and **DRDO** participated in the programme, covering themes such as administrative vigilance, strategic decision-making, leadership governance, public service values, financial management and public decision-making processes

Source: Press Information Bureau, Dt. 06 May 2026

Union Minister of State (Independent Charge) for Science & Technology; Earth Sciences and Minister of State for PMO, Personnel, Public Grievances and Pensions, Department of Atomic Energy and Department of Space, Dr. Jitendra Singh today presented certificates and testimonials to the first batch of Scientists and Academicians receiving a formal training course in administration and governance.

Dr. Jitendra Singh described the 3-day programme as a first-of-its-kind initiative jointly organised by the Indian National Science Academy and the Capacity Building Commission under the broader vision of Mission Karmayogi. He noted that the initiative emerged from discussions on the gap between scientific expertise and administrative preparedness, particularly for scientists at senior levels who often move into institutional leadership without formal training in governance systems, procurement rules, parliamentary procedures and public administration.

Dr Jitendra Singh said that scientific excellence alone is not sufficient to lead modern institutions, emphasising that scientists moving into leadership roles must also be equipped with governance, administrative and financial management capabilities. Addressing the valedictory session of the first INSA–CBC Administrative Training Programme at the Indian National Science Academy (INSA), New Delhi, the Minister highlighted the growing need for structured administrative training for scientists assuming institutional leadership responsibilities.

The Minister stated that India today stands at a critical juncture, with its scientific ecosystem making global contributions in areas ranging from space exploration and vaccine development to quantum technologies and deep-sea missions. However, he stressed that institutional leadership, resource management and strategic decision-making would be equally important in determining the future trajectory of India’s scientific growth. Referring to Mission Karmayogi, he said the initiative represents a shift from rule-based to role-based governance and from compliance-oriented administration to competence-driven public service.

Highlighting the importance of continuous capacity building, Dr. Jitendra Singh said the programme should not remain limited to a pilot initiative and called for its institutionalisation as a recurring national-level training platform. He also referred to the integration of such learning mechanisms with the iGOT Karmayogi platform, noting that digital platforms can help scale similar training initiatives across India’s scientific establishments.

Addressing the participants directly, the Minister urged them to apply the learnings from the programme within their respective organisations and emerge as change agents capable of improving institutional systems and governance practices. He emphasised that transparency,

efficiency and accountability in the use of public resources are moral responsibilities attached to leadership positions in publicly funded scientific institutions. He also highlighted the need for stronger coordination between scientific research and societal needs, stating that science administrators occupy a crucial interface between laboratories, governance and public policy.

Prof. Shekhar Mande, President, INSA, highlighted that the programme was conceptualised to strengthen the administrative and institutional capacity of scientists working across government scientific departments and organisations. He noted that 23 scientists from institutions including ICMR, CSIR, DSIR, DST, Ministry of Earth Sciences and DRDO participated in the programme, which covered themes such as administrative vigilance, strategic decision-making, leadership in science governance, public service values, financial management and public decision-making processes. He emphasised that the programme aimed to familiarise scientists with the rules, accountability structures and governance mechanisms necessary for effective institutional leadership.

Dr. Brajesh Pandey, (Executive Director, INSA) highlighted that the programme reflected a larger effort to build institutional and administrative capacities within India's scientific ecosystem. He underlined the importance of equipping scientific leaders with governance and management capabilities in line with the vision of Viksit Bharat 2047. He also referred to the role of emerging technologies, digital governance systems and collaborative institutional mechanisms in strengthening science administration and public service delivery.

The INSA–CBC Administrative Training Programme brought together scientists and administrators from leading scientific institutions and departments for structured sessions on governance frameworks, budgeting, procurement systems, parliamentary procedures, leadership and strategic thinking through interactive discussions, case studies and simulation-based learning exercises.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=2258439&reg=3&lang=1

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Defence News

European defence major MBDA signs pact with IAF to implement MRO capabilities for MICA missiles

Source: The Times of India, Dt. 07 May 2026

European defence major with expertise in missiles, MBDA, has signed an agreement with the Indian Air Force (IAF) for the development of a local capability for the maintenance, repair and mid-life overhaul (MRO) of MICA missiles. The IAF uses MICA missiles as a versatile air-to-air weapon on its Rafale and upgraded Mirage 2000 fighter jets as these missiles are designed for both beyond-visual-range (BVR) and short-range dogfighting. MICA was first incorporated into the IAF in 2016, following the upgrade of its Mirage 2000 fleet.

The MRO facility will be set up, operated and maintained by the IAF, with Paris-headquartered MBDA supplying the industrial machinery and tools required, data packages, as well as training and technical support. Developing such a facility locally will foster long-term capability building, secure technical expertise for years to come, and develop India's strategic autonomy, reflecting the core principles of Atmanirbhar Bharat.

This facility will help India's domestic defence sustainment effort, improving turnaround times, with capacity to support MICA missiles throughout the duration of their time in service, significantly enhancing the operational capability and readiness of the Indian armed forces, a statement from the European company said.

Sharing a long history of partnership, the IAF has relied on MBDA's missile systems provide the latest air combat performance across a number of different aircraft types. MBDA has supported the IAF for over 50 years, providing advanced weapons such as the MICA, Meteor, ASRAAM, and Mistral systems.

https://timesofindia.indiatimes.com/defence/european-defence-major-mbda-signs-pact-with-iaf-to-implement-mro-capabilities-for-mica-missiles/articleshow/130876429.cms

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राजनाथ सिंह सुरक्षा चुनौतियों की समीक्षा करेंगे

Source: Punjab Kesari, Dt. 07 May 2026

ऑपरेशन सिंदूर की पहली वर्षगांठ के अवसर पर बृहस्पतिवार को रक्षा मंत्री राजनाथ सिंह जयपुर में संयुक्त कमांडर सम्मेलन में भारत की राष्ट्रीय सुरक्षा चुनौतियों और सेना की युद्ध तत्परता की व्यापक समीक्षा करेंगे। इस अभियान के तहत, भारत ने पिछले साल छह मई की देर रात पाकिस्तान और इसके कब्जे वाले कश्मीर में स्थित नौआतंकी शिविरों पर सटीक मिसाइल हमले किए, जिनमें कम से कम 100 आतंकवादी मारे गए। यह कार्रवाई पहलगाम आतंकी हमले ' के बाद की गई थी, जिसमें 26 निर्दोष नागरिक मारे गए थे। अभियान की पहली वर्षगांठ के उपलक्ष्य में, रक्षा मंत्रालय ने इसे एक ऐतिहासिक त्रि-सेवा मिशन के रूप में वर्णित किया है जो भारत की 'अंटूट राजनीतिक इच्छाशक्ति और सटीक सैन्य संकल्प' का प्रमाण है। दो दिवसीय संयुक्त कमांडर सम्मेलन के दूसरे संस्करण में, सिंह और शीर्ष सैन्य अधिकारियों द्वारा क्षेत्रीय सुरक्षा परिदृश्य में हो रहे बदलावों को देखते हुए देश की सैन्य तैयारियों के विभिन्न पहलुओं की समीक्षा किए जाने कीं उम्मीद है। रक्षा मंत्री सिंह और प्रमुख रक्षा अध्यक्ष जनरल अनिल चौहान भी इस सम्मेलन में शामिल होंगे जिसका महत्व इसलिए भी अधिक है क्योंकि यह ऑपरेशन सिंदूर की पहली वर्षगांठ के साथ हो रहा है, जो ऐतिहासिक त्रि-सेवा अभियान और भारत की अटूट राजनीतिक इच्छाशक्ति एवं सैन्य संकल्प का प्रमाण है।

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Rajnath Singh to address Jaipur defence meet on Operation Sindoor anniversary

Source: The Pioneer, Dt. 07 May 2026

Defence Minister Rajnath Singh and Chief of Defence Staff (CDS) General Anil Chauhan will address the second edition of the two-day Joint Commanders' Conference starting on May 7 in Jaipur, Rajasthan. The conclave assumes significance as it coincides with the first anniversary of Operation Sindoor. It was a landmark tri-service operation that stands as a testament to India's

unflinching political will and military resolve, characterised by surgical precision, the defence ministry said here on Wednesday. The theme of the conference is 'Military Capability in New Domains.'

Modern warfare is transitioning into a more complex and tech-driven paradigm with the transformative impact of AI, the development of unmanned systems and emerging threats that extend beyond traditional battlefields and target invisible frontiers. The conference will provide a pivotal forum to evaluate the challenges in emerging domains of cyber, space and cognitive warfare and chart a roadmap for capability development for a resilient and future-ready force with a decisive edge.

Central to the agenda will be to accelerate indigenisation and Aatmanirbharta in defence production by fostering a domestic ecosystem of innovation and civil-military fusion. The conference will also feature a demonstration of futuristic applications developed in-house and the release of new doctrines pertaining to future warfare concepts and operational strategies.

https://dailypioneer.com/news/rajnath-singh-to-address-jaipur-defence-meet-on-operation-sindoor-anniversary

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Brainstorming session on future warfare to mark 1st anniversary

Source: The Tribune, Dt. 07 May 2026

The military will mark the first anniversary of Operation Sindoor — the skirmish with Pakistan in May last year — with a high-level brainstorming session of the three services focused on future warfare, emerging domains such as cyber and space, and advancing self-reliance in defence technology. A two-day 'Joint Commanders' Conference' will be held in Jaipur on May 7-8 to deliberate on "military capability in new domains". The conference will be attended by Defence Minister Rajnath Singh.

According to the Ministry of Defence, modern warfare is shifting towards a more complex, technology-driven paradigm. Artificial intelligence and unmanned systems are redefining warfare, with threats now spilling beyond battlefields into invisible frontiers, it added. The conference will serve as a key platform to assess challenges in emerging domains such as cyber, space and cognitive warfare, and to chart a roadmap for building a resilient, future-ready force with a decisive edge.

A central focus will be accelerating indigenisation and aatmanirbharta in defence production by fostering a domestic innovation ecosystem. The event will also include demonstrations of in-house futuristic technologies and the release of new doctrines on warfare concepts and operational strategies. Chief of Defence Staff Gen Anil Chauhan is expected to brief commanders on proposals to create integrated theatre commands. Speaking at a lecture at the United Service Institution of India on May 4, he said three sets of recommendations on theatre commands have been submitted to the Ministry of Defence.

At the conference, the top leadership of the armed forces will be apprised of the roadmap for achieving greater jointness — moving from coordination to unity of effort. Theatre commands refer

to geographically defined operational areas under a single military commander, who would control all war-fighting assets, including aircraft, helicopters, artillery, tanks, equipment and personnel.

https://www.tribuneindia.com/news/operation-sindoor-one-year/brainstorming-session-on-future-warfare-to-mark-1st-anniversary/amp

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फिलीपींस के बाद अब वियतनाम भी खरीद सकता है भारत से ब्रह्मोस

Source: Dainik Jagran, Dt. 07 May 2026

दक्षिण चीन सागर में चीन की बढ़ती सैन्य दखलअंदाजी और वियतनाम के साथ उसके समुद्री सीमा विवाद के तनावपूर्ण माहौल के बीच पीएम मोदी और वियतनाम के राष्ट्रपति तो लाम के बीच बुधवार को नई दिल्ली में हुई शिखर वार्ता में दोनों देशों के संबंधों को संवर्धित व्यापक रणनीतिक साझेदारी का दर्जा देने का फैसला किया गया। इस वार्ता में दोनों नेताओं ने 2030 तक द्विपक्षीय व्यापार को 25 अरब अमेरिकी डालर तक-बढ़ाने का लक्ष्य भी निर्धारित किया। वार्ता के बाद जारी संयुक्त बयान में भारत-वियतनाम व्यापक रणनीतिक साझेदारी को प्रमुख स्तंभ बताया गया है। दोनों देशों ने स्पष्ट रूप से कहा है कि साउथ चीनसी में अंतरराष्ट्रीय कानून का पालन होना चाहिए और किसी को भी वहां भय पैदा करने की कोशिश नहीं करनी चाहिए।

मोदी और तो लाम के बीच बेठक में ब्रह्मयॉस मिसाइल सिस्टम की बिक्री पर भी चर्चा हुई। भारत और रूस द्वारा निर्मित इस मिसाइल सिस्टम को दक्षिण पूर्व एशिया का एक अन्य देशफिलीपींस पहले ही खरीद चुका है। विदेश मंत्रालय के सचिव (पूर्व) पी कुमारन ने बताया कि भारत और वियतनाम के बीच वार्ता आगे बढ़ रही है। भारत ने वियतनाम को सुखोई युद्धक विमानों के रखरखाव में मदद करने की पेशकश भी की है। उधर, एएनआइ के अनुसार रक्षा मंत्री राजनाथ सिंह ने वियतनाम के उप प्रधानमंत्री और रक्षा मंत्री जनरल फान वान गियांग के साथ रक्षा सहयोग बढ़ाने को लेकर द्विपक्षीय बेठक की।

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India, Vietnam elevate ties to enhanced comprehensive strategic partnership

Source: The Indian Express, Dt. 07 May 2026

India and Vietnam decided to elevate bilateral ties to ‘Enhanced Comprehensive Strategic Partnership’, set a new trade goal of $25 billion by 2030 and increase defence systems procurement between the two countries after Prime Minister Narendra Modi met the visiting President of Vietnam To Lam on Wednesday. After the bilateral talks with President To Lam, who is also the General Secretary of the Central Committee of Communist Party of Vietnam, Prime Minister Modi said, “We are today elevating our relationship to the level of an ‘Enhanced Comprehensive Strategic Partnership.’ We will now steer our partnership toward even loftier goals. From culture, connectivity, and capacity-building to security, sustainability, and supply chain resilience—our cooperation is set to reach new heights across every sector.”

India was one of the first countries with whom Vietnam entered into a Strategic Partnership in 2007. This was also India's first Strategic Partnership within the ASEAN region. The two countries elevated the relations to a Comprehensive Strategic Partnership in 2016.

On the trade ties, Modi said, "Bilateral trade between India and Vietnam has doubled over the past decade, reaching a volume of $16 billion. Today, we have taken several significant decisions aimed at further boosting this figure to $25 billion by the year 2030. The MoU between our respective drug authorities will now enhance access for Indian pharmaceuticals in Vietnam. The export of India's agricultural, fisheries and animal products to Vietnam is also set to become smoother. Very soon, Vietnam will get to savor India's grapes and pomegranates, while we will enjoy Vietnam's durian and pomelo." The two sides signed 11 pacts, ranging from rare earth to digital payments, urban management to culture and manuscripts. During the meeting, Vietnam also joined the Indo Pacific Oceans Initiative (IPOI).

Defence, maritime security in focus

On the contentious issue of South China Sea, the joint statement said, in an oblique reference to China's belligerent behaviour, "Underlining the link between prosperity and security, the leaders reaffirmed the importance of maintaining peace, stability, security and freedom of navigation and overflight in the South China Sea, while pursuing the peaceful resolution of disputes in accordance with international law, particularly the 1982 United Nations Convention on the Law of the Sea (UNCLOS), without resorting to threat or use of force."

It also said that the leaders underscored the importance of "non-militarization and self-restraint in the conduct of all activities by claimants and all other states, and avoidance of actions that could further complicate the situation or escalate disputes affecting peace and stability. The leaders underlined that UNCLOS is the comprehensive legal framework governing all activities in the oceans and seas. The leaders further called for the full and effective implementation of the Declaration on the Conduct of Parties in the South China Sea (DOC) in its entirety and the early conclusion of negotiations towards a substantive and effective Code of Conduct in the South China Sea (COC)."

Underlining that "defence and security cooperation" is a "key pillar" of the India-Vietnam Comprehensive Strategic Partnership, it said that the leaders agreed to further "strengthen cooperation and enhance engagements in both traditional and emerging areas of defence cooperation, including defence policy dialogue, joint exercises, staff talks, joint research and co-production of new defence technologies, enhanced port calls by naval vessels and air force aircraft, peacekeeping activities, information sharing, hydrography, defence exhibitions, capacity-building, defence industrial cooperation, maritime security, maritime safety, and search and rescue operations based on mutual interest and priorities of the two countries."

https://indianexpress.com/article/india/india-vietnam-elevate-ties-to-enhanced-comprehensive-strategic-partnership-10676775/

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INS Baaz expansion in Great Nicobar awaits approval

Source: The Tribune, Dt. 07 May 2026

The Navy's plans to expand its existing airfield INS Baaz and making of Naval jetty on Great Nicobar island has been awaiting approval for almost five years. Meanwhile, a few kilometres

south on the same island, a transhipment hub is coming up as part of the Rs 81,000 crore infrastructure project that has been at the centre of political controversy.

Located at Campbell Bay on the Great Nicobar Island, INS Baaz is currently the southernmost air station of the Indian forces. The Naval jetty is planned to come up in the same Campbell bay. The Great Nicobar Island (GNI) Transhipment Hub is the centrepiece of the Rs 81,000 crore mega-infrastructure project located at Galathea Bay. It is designed to be an International Container Transhipment Terminal (ICTT) that will compete with global logistics giants like Singapore and Colombo.

Sources confirmed to The Tribune that the expansion of INS Baaz is held up due to permission for acquiring land and there is no permission to go ahead with the jetty either. The INS Baaz, is positioned at the 'mouth' of the Strait of Malacca, and acts as India's first sentinel for the vital water body through which a massive portion of global commercial and strategic shipping passes.

The INS Baaz was commissioned in July 2012. It is primarily used by the Navy's Dornier 228 aircraft and can support the IAF's C-130J Super Hercules. The runway at INS Baaz is barely 3,000 feet and the Navy is seeking to expand it to almost 9,000-10,000 feet. It will allow long-range maritime surveillance aircraft, such as the Boeing P-8I to operate directly from Great Nicobar rather than flying in from the mainland or Sri Vijaya Puram (Port Blair). Once expanded it can also allow operations of fighter jets. The Navy has its own maritime jets, the MiG 29K, while a few IAF squadrons of the Sukhoi 30 MKI and Jaguar also have a maritime role.

Meanwhile, as part of the GNI infrastructure project at the Galathea bay, India has formally initiated the process to make a second airfield at Chingen. Estimated to cost Rs 8,573 crore, the green-field airport project at Galathea Bay is being handled by Airports Authority of India (AAI).

But once the infrastructure is completed, it can be used for the naval planes, UAVs and the Air Force. This will be in addition to the existing naval air base, INS Baaz, at Campbell Bay, which is also on the Great Nicobar island. Part of the archipelago of Andaman and Nicobar in the Bay of Bengal, the island is located 150 kms north-west from Banda Aceh in Sumatra, Indonesia.

https://www.tribuneindia.com/news/india/ins-baaz-expansion-in-great-nicobar-awaits-approval/

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New Defence Rules: 5-year ban for poor supplies, 10 years for misconduct

Source: The Economic Times, Dt. 07 May 2026

Defence suppliers failing to meet contractual obligations or supplying equipment that underperforms can face a 5-year debarment from all government contracts, while those indulging in ethical misconduct can be banned for 10 years, new guidelines released by the Ministry of Defence state. In an overhaul to its guidelines for penalties in business dealings with entities, the defence ministry has brought out clear criteria for banning companies, including a detailed procedure for imposition of financial costs.

The updated guidelines, which replace a 2016 framework, have a zero tolerance stance on corruption and will hold vendors accountable for delays in supply of equipment as well as poor performance of systems supplied.

Violations of the Integrity Pact (IP) or fraudulent actions can lead to a debarment of up to 10 years, which includes breaches like corruption, bribery and illegal commissions. The debarment will be initially for a year, which will then be reviewed by a high-power committee. The policy states that debarment will not exceed 10 years. For non-performance, the debarment will initially be for six months and can be extended to a maximum of five years. The performance will be measured on several factors like delivery timelines, serviceability, downtime and failure rates.

The new guidelines also extends debarment and suspension to "allied firms", joint ventures, and even entities resulting from mergers or acquisitions. If a debarred company attempts to escape by restructuring or offloading liabilities to a new firm, the MoD now has the legal mandate to treat the successor as a blocked entity. As per the guidelines, vendors will be granted a mandatory 30-day window to respond to the allegations.

https://economictimes.indiatimes.com/news/defence/new-defence-rules-5-year-ban-for-poor-supplies-10-years-for-misconduct/articleshow/130867702.cms?from=mdr

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Operation Sindoor, a year later: Underground infra to air defence, armed forces fast-track priorities

Source: The Indian Express, Dt. 07 May 2026

The early hours of May 7 will mark one year of Operation Sindoor, a strike by the Indian armed forces on terror targets in Pakistan-occupied Kashmir and Pakistan followed by hostilities between the two countries over four days. A year since, the Indian military has focused on two significant aspects: large-scale construction of underground infrastructure and the establishment of a strong air defence system.

Learning from Operation Sindoor and ongoing global conflicts, several changes are being considered, covering deployment of troops and equipment, acquisition of new technology and weapons, among them a range of drones and counter-drone systems, and newer ways of fighting wars. Multiple officials across the defence establishment told The Indian Express that the construction of large-scale underground infrastructure has been a major focus of the military, alongside the implementation of other passive measures such as dispersal of assets and formations, increased concealment and camouflage, and force preservation efforts.

According to officials, work on the construction of underground command and control centres, starting with the Army's Command and Corps Headquarters level and later at divisional and lower levels, has been underway. These underground command centres will be equipped with C4I2SR (Command, Control, Communications, Computers, Intelligence, Information, Surveillance and Reconnaissance), which can be shared among all services on a secure network.

A C4I2SR is an integrated system that enables military commanders to achieve situational awareness and coordination, thus aiding decision-making superiority in operations across domains. An underground command and control center will enable military commanders to lead operations securely during active conflict.

Other underground infrastructure to be constructed will include limited medical facilities, living bunkers designed for long-term habitation during wars and other disasters, ammunition and FOL (Fuel, Oil, Lubricants) and rations storage facilities in forward locations along the borders, as well

as in depth areas. Officials said that construction of 3D-printed bunkers, which are quick to make, resilient and can easily be relocated, will also form part of the country's underground infrastructure.

Before-and-after photo of Markaz Subhan Allah in Bahawalpur, which served as the primary hub for Jaish-e-Mohammed (JeM). It is also learnt that the focus is also on the creation of additional underground infrastructure along the western borders, so as to make daily routine operations resilient to wars or disasters, a key element of which is the hardened bunker. Aside from the construction of underground military infrastructure, the creation of dual-use infrastructure such as airfields, highways and roads connecting strategic areas closer to borders has also emerged as a key priority.

For instance, the Indian Air Force (IAF) last month conducted an emergency landing field activation drill on the Purvanchal Expressway in Sultanpur in UP. Fighters, including the Su-30MKI, Jaguar, Mirage 2000, and C295 transport aircraft, participated in the drill. Several airfields across the country, including those closer to the borders, have been opened for civil use. Drawing from the lessons of Operation Sindoor, during which Pakistan sent swarms of low-cost drones to India, and also from the Israel-US and Iran war, in which Iranians launched drones and missiles towards Israel and US bases in the Gulf countries, strengthening air defence has been a key focus of the armed forces.

While there are moves to establish a comprehensive air defence shield across the country under the Sudarshan Chakra mission – a panel under the Defence Research and Development Organisation (DRDO) recently submitted a pre-feasibility report on the project – work has also begun on enhancing the existing Akashteer cover of the Army. An indigenous, automated Air Defence Control and Reporting System of the Army, Akashteer can be easily integrated with the IACCS (Indian Air Force) and TRIGUN (Indian Navy), creating a clear and real-time picture of the battlefield.

The IAF's Integrated Air Command and Control System (IACCS) is an automated command and control system that integrates data from all air defence assets to detect, identify, intercept, and destroy hostile intruders. Akashteer is vehicle-mounted and highly mobile, therefore ideal for deployment in dangerous and active war zones.There has also been large-scale procurement of counter-UAS systems – many of these will be integrated with legacy weapon systems of the armed forces – which are cheaper to operate, yet accurate and will help optimise the use of ammunition.

The Indian Express had reported earlier that even during Operation Sindoor, when Pakistan sent swarms of cheap drones into Indian territory while camouflaging some armed and surveillance drones, the legacy air defence systems, such as the L/70 guns, were used to shoot them down. These weapons systems will now be further integrated with the new anti-drone systems being procured.

Air Marshal Narmdeshwar Tiwari (retd), who was Vice Chief of Air Staff during Operation Sindoor, told The Indian Express that India managed to defend all its bases from Pakistan's attacks during Operation Sindoor due to its robust, layered air defence shield already in place, but that will continue to evolve. Underlining that detection is a key component of air defence, he said the idea is to get the information as quickly as possible. "Getting more advanced and specialised sensors and radars that pick up information about incoming threats, covering everything from ballistic missiles to small drones, will be the way forward towards strengthening air defence," he said.

He said it may not be feasible to defend every piece of land against all weapon systems, so the deployment of air defence assets should focus on prioritising what is most important to protect.

Aside from plans to procure sophisticated sensors and radars, the Indian military has, since last year, prioritised procurement of counter-UAS systems.

India has also been planning to procure more S-400 surface-to-air missile systems. The DRDO has been developing Project Kusha, an indigenous long-range surface-to-air missile system to protect strategic military and civilian assets and infrastructure from a range of aerial threats. On the military's focus on offensive air defence, Air Marshal Tiwari said the idea of a robust air defence infrastructure is not only to deny the enemy from hitting any Indian target, but also to deny him from using the airspace of his own country for launching any attack.

The S-400s, the Kusha and even the MRSAMs (medium-range surface-to-air missiles) can act as offensive air defence systems based on how they are deployed, he said. Last year, IAF chief Air Chief Marshal A P Singh disclosed that among the targets destroyed on May 7 was a large Pakistani airborne platform, possibly an ELINT (Electronic Intelligence) or AEW&C (Airborne Early Warning and Control) aircraft, taken down from a distance of about 300 km. He described it as the "largest-ever recorded surface-to-air kill that we can talk about".

Such a long-range kill involves a long-range interceptor missile, a surface-to-air missile designed to destroy airborne targets at distances well beyond visual range, steady precision tracking and the ability to maintain a firing solution until impact. The IAF acquired this capability recently, with the induction of the Russian-made S-400 Triumf system.

https://indianexpress.com/article/india/operation-sindoor-a-year-later-underground-infra-to-air-defence-armed-forces-fast-track-priorities-10676778/lite/

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Army boosts combat edge with drones, AI, strike units

Source: The Tribune, Dt. 07 May 2026

A year after the India-Pakistan conflict in May last year, the armed forces have undergone a significant transformation, with the Army's war-fighting architecture seeing the most visible and rapid overhaul. This includes greater reliance on drones, extended-range rockets, precision artillery and the integration of artificial intelligence.

The changes have been reinforced by the creation of specialised units for modern warfare. Among the most significant is the raising of new artillery regiments, called "Shaktibaan", which will deploy loitering munitions and swarm drones in future conflicts. Around 25 such regiments are being pre-positioned at key locations along the western front with Pakistan and the northern frontier with China.

Supporting these are newly raised 'Divyaastra' batteries —equipped with long-range artillery guns, surveillance drones and anti-drone systems, backed by AI-enabled fusion centres that collate real-time data. Together, Shaktibaan and Divyaastra represent a reimagining of offensive operations by integrating conventional firepower with unmanned systems and AI-enabled targeting.

This shift marks a move away from traditional artillery roles. The new formations are designed as integrated, multi-domain strike units capable of deep precision strikes, real-time surveillance, area defence and independent operations. They also feature built-in air defence against enemy UAVs and AI-driven systems that can recommend targeting solutions. In January, Army Chief Upendra Dwivedi said 2026 and 2027 would be dedicated to strengthening "networking" within the force and

making it more data-driven. The aim is to improve connectivity, information flow and coordination, enabling faster and better-informed decision-making.

“Networking and data-centricity” in the armed forces refer to building a digitally connected military in which data flows seamlessly across units, enabling faster decision-making, resilient communication and integrated operations. Network-centricity is expected to shape outcomes in future wars, with the side that decides faster gaining the upper hand. Data-centricity, in turn, ensures those decisions are well-informed. Achieving this speed requires rapid transmission of data, imagery and satellite inputs to commanders on the ground as well as at senior levels.

The government has also cleared a long-pending proposal to set up Integrated Battle Groups (IBGs). The first is expected to come up under the China-focused 17 Mountain Strike Corps. Under the plan, its two division-sized formations will be reorganised into four IBGs, each led by a Major General.

IBGs are designed as agile, brigade-sized combat units comprising infantry, artillery, armoured elements, engineers, signals and air defence, capable of launching operations within 48 hours. The Army’s drone-based battle system has now been operationalised. All 385 infantry battalions have been equipped with specialised drone units called ‘Ashni’, supported by AI-based satellite imagery analysis.

The Army has also developed its own AI platform, ‘Ekam AI’, to deliver mission-grade intelligence, automation and decision support. Another system, ‘Skynet Intel’ is a drone forensics tool that can extract and analyse data from captured enemy drones, including telemetry, GPS tracks, mission logs, sensor files and even partially damaged or encrypted data.

Additionally, the Army has raised five specialised commando battalions called ‘Bhairav’, with initial deployments in critical areas under the Northern Command, including Ladakh and Srinagar. The western and eastern sectors are also expected to receive such units. At the brigade level, firepower has been enhanced through integrated formations called ‘Rudra’, which combine infantry, mechanised units, armour, artillery, special forces and unmanned aerial systems.

https://www.tribuneindia.com/news/operation-sindoor-one-year/army-boosts-combat-edge-with-drones-ai-strike-units/

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Midnight sorties, aggressive manoeuvring: How the IAF pierced Pakistan’s air defence network

Source: The Tribune, Dt. 07 May 2026

Intricate planning, midnight sorties, flying at low level and aggressive manoeuvring in the face of heavily fortified enemy defences was how IAF pilots carried out multiple high-stakes missions to hit critical targets deep inside Pakistan during Operation Sindoor in May last year. During most of the strike missions carried out from May 7 to 10, the opportunity to penetrate the hostile threat envelope was extremely restricted and the launch window available to deliver the weapons was miniscule.

Nine IAF officers — Group Captains Manish Arora, Kunal Kalra, Animesh Patni and Ranjeet Singh Sidhu; Wing Commander Joy Chandra; Squadron Leaders Sarthak Kumar, Siddhant Singh and Rizwan Malik; and Flight Lieutenant Aarshveer Singh Thakur — were decorated with the Vir

Chakra for gallantry with their citations giving a captivating account from the cockpits. The IAF has not officially disclosed the aircraft used in the operation or the units involved, but it is widely believed that the SU-30 MKI, Rafale, Mirage-2000, Jaguar, Tejas and MiG-29 were used for strikes and air defence cover. These were equipped with the BrahMos cruise missile and HAMMER, SCALP and SPICE stand-off precision attack munitions.

Flying as mission leader of an unescorted strike package to neutralise targets that were heavily fortified by advanced weapon system and defended round the clock by aircraft equipped with long-range missiles, Group Captain Manish Arora, commanding officer of a squadron, had a limited opportunity to penetrate this envelope and the window to launch his weapons was significantly short.

Proceeding at low level by dark night followed by aggressive manoeuvring to achieve accurate launch parameters and simultaneously evade hostile defences, he was targeted by multiple aerial and ground launches, but ensured successful target destruction. During the operation, his audacious and aggressive manoeuvring plunged the opposing forces into tactical chaos and the attacks carried out by him and his unit against the adversary were so intense that they rendered them incapable of retaliating, his citation states.

Under similar operational circumstances, Group Captain Kunal Kalra was tasked with destroying two targets while navigating through adverse weather en route. Despite encountering aircraft unserviceability in air and overwhelming presence of adversaries, he fired his first weapon on the target. While readying his weapon for firing on the second target, the aircraft systems indicated a malfunction, but he kept flying under lethal range of enemy forces, evaded multiple aerial and ground attacks and successfully executed remedial actions to reset his weapon system and hit the second target.

As part of the mission planning cell, Squadron Leader Sarthak Kumar played a pivotal role in the conceptualisation, coordination and execution of multiple high-value deep strike missions, incorporating precise intelligence data and methodically accounting for every detail of the targeting plan. On the designated day, he successfully executed a deep strike mission with surgical precision and the next day he was tasked with flying a long-range strike mission that resulted in the destruction of another critical target, thereby severely degrading the operational capabilities of the enemy and crippling his ability to wage war.

A three-aircraft formation tasked with a precision strike required accurate engagement of the particular target with a weapon system that had limited stand-off capability, requiring precise control of the weapon till impact. This called for exceptional flying skills and the highest level of airmanship owing to the presence of heavily networked and integrated air defence, which included long and medium-range guided missiles.

In the early morning hours, Squadron Leader Siddhant Singh flew with the formation at low level to avoid detection and at the opportune moment pulled up to higher levels for weapon release. The formation encountered rapid air response from both aircraft and missiles but he ensured launch of the weapons and its successful guidance till impact on target. Group Captain Ranjeet Singh Sighu, commanding a fighter squadron, not only led multiple deep penetration strike missions in a complex and high-stakes combat environment, but also carried out air defence missions in support of other IAF formations carrying out similar strike objectives.

Wing Commander Joy Chandra, Squadron Leader Rizwan Malik and Flight Lieutenant Aarshveer Singh Thakur were the other pilots decorated for carrying out several arduous strike missions in a

similar fashion. Group Captain Animesh Patni, commanding a strategic surface-to-air missile unit, was decorated for conducting a pioneering offensive air defence operation, inflicting significant losses to the enemy which thwarted its strike missions.

https://www.tribuneindia.com/news/operation-sindoor-one-year/midnight-sorties-aggressive-manoeuvring-how-iaf-pierced-pak-defence/

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When air-mobilised guns fired deadly barrages

Source: The Tribune, Dt. 07 May 2026

A year ago, in utmost secrecy, the Indian Army undertook its first-ever air mobilisation of a specialised Artillery unit, the 302 Medium Regiment, which was later tasked at short notice to destroy terrorist camps in Pakistan during Operation Sindoor. As details of the operation unfolded a few months later, these also provided an insight into the intricate planning, professional acumen and unwavering leadership that went into the deployment of the Artillery to neutralise targets across the border.

While missiles and drones were extensively employed along the entire border to strike targets in Pakistan's hinterland, a lesser-known fact is that the Artillery was also used during the operation for offensive action along the International Border and Line of Control (LoC) in Jammu and Kashmir. The 302 Medium Regiment was tasked with undertaking air mobilisation and ensuring timely inter-command induction for the operation while maintaining complete secrecy. The unit was located "far away" from the intended area of deployment.

Once tasked to orchestrate coordinated precision engagement of vital terrorist infrastructure in the Northern Command's area of responsibility, the unit carried out a synchronised fire mission with absolute surprise and extremely high accuracy despite being under enemy observation and fire. The unit is equipped with British-made M-777 155 mm ultra-light howitzers and used US-made M-982 Excalibur precision munitions that can hit targets up to 40 km away with an error probability as low as two metres. The shell is also compatible with other weapons such as the Swedish Bofors FH-77 and the indigenous Dhanush and K-9 Vajra.

The Army began inducting the M-777 in 2017 and the first Excalibur ordnance was procured in 2019. As many as 145 guns, with a few directly imported and the remaining assembled in India, have been inducted to form seven artillery regiments. Post Operation Sindoor, orders for additional Excalibur munitions have reportedly been placed. The M-777 howitzer itself weighs 4,200 kg. In comparison, the Bofors weighs 11,500 kg and Dhanush about 13,000 kg. Mobilisation does not involve moving just the guns but also ammunition and a wide range of equipment such as communication, observation and target acquisition systems, spares, tools, camouflage and protection gear. During airlift, the guns are transported as underslung cargo by IAF CH-47 Chinook or Mi-17 V5 helicopters.

The Commanding Officer of 302 Medium Regiment, Col Koshank Lamba, who hails from Haryana and is an alumnus of the National Defence Academy, was decorated with the Vir Chakra for his role in Operation Sindoor. "The officer, because of his vast experience, was moved at short notice and was instrumental in carrying out acquisition and analysis of one of the most difficult targets. His technical prowess on equipment, tactical knowledge and time-bound relentless mission-

oriented training transformed his subunit to mission capable within five days," the citation for his award states.

"Once the enemy retaliated with heavy bombardment, with utter disregard to personal safety, the commanding officer kept moving from gun to gun, thereby motivating his troops and ensuring mission accomplishment. His resolute leadership and bravery in the face of enemy fire resulted in destruction of multiple terrorist camps and neutralisation of a large number of terrorists," the citation adds. Another precision strike Artillery unit, 1988 (Independent) Medium Battery, was involved in intense planning to determine precise target coordinates using the latest satellite imagery and meticulously briefing commanders-in-chain on execution methodology.

Its Officer Commanding, Lt Col Sushil Bisht, also decorated with the Vir Chakra, led the unit through rigorous rehearsals focusing on achieving tactical surprise and swift extrication. Upon receiving orders to strike terrorist camps, he swiftly deployed his unit under cover of darkness and led the assault with precise targeting, causing complete destruction of terrorist camps. Despite the threat of enemy counter-bombardment, he ensured safe and timely extrication of all troops under his command.

He was again tasked with destruction of a key target. Without delay, he brought his unit to readiness and, displaying undaunted courage under intense attack and constant enemy shelling, led his men to success. At the sub-unit level involving close support weapons, Naib Subedar Satish Kumar, Mortar Position Controller with the 4th Battalion of the Dogra Regiment, exhibited exemplary leadership, tactical acumen and unwavering courage when his post along the Line of Control came under intense enemy artillery and mortar fire.

Displaying exceptional tactical proficiency and battlefield awareness, he swiftly directed accurate retaliatory fire. Under his command, mortar detachments set enemy positions ablaze, destroyed targets, including two surveillance cameras, and caused substantial material loss to the enemy. In addition, his counter-bombardment and counter-mortar operations suppressed retaliatory fire and ensured tactical dominance without any casualty or damage to his own mortar platoon, for which he was awarded the Vir Chakra.

https://www.tribuneindia.com/news/operation-sindoor-one-year/when-air-mobilised-guns-fired-deadly-barrages/

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Operation Sindoor's key lesson: Future conflicts will not resemble the past

-by Syed Ata Hasnain, Governor of Bihar & former commander of Srinagar-based Chinar Corps

Source: The Indian Express, Dt. 07 May 2026

A year after Operation Sindoor, it is possible to move beyond the immediacy of events and assess its deeper strategic meaning. Op Sindoor was more than a successful response to provocation. It marked the maturing of India's ability to employ calibrated force under a nuclear overhang, while retaining control over escalation. In doing so, it offered a template for the management of sub-conventional conflict in a complex, multi-domain environment.

The most striking feature of Sindoor was not the scale of force employed, but the discipline with which it was applied. India chose not to be drawn into a wider conventional conflict, despite having both the capability and the provocation to do so. Instead, it demonstrated a doctrine of aggression blended with restraint — precise, time-bound, and politically directed. This was not a restraint born of hesitation, but of strategic confidence. The message was clear: India could escalate, but chose not to. Yet. Credible retribution against the perpetrators, rather than territorial ambition, defined the operation. This was a carefully chosen strategy from a spectrum of available options.

For Pakistan, this posed a dilemma it was ill-prepared to handle. Its strategic culture remains anchored in binary responses to either escalate conventionally or retreat into denial. Sindoor forced it into a grey zone where neither option was viable. Its military response lacked coherence, constrained by both surprise and capability gaps in handling limited, multi-domain operations. Its attempts to compensate through information warfare only diluted its credibility, as exaggerated claims failed to withstand scrutiny. More significantly, Pakistan's repeated invocation of the nuclear threat appeared increasingly formulaic, even fatigued. Nuclear signalling, once a potent deterrent, risks losing salience when overused without corresponding credibility.

India, by contrast, demonstrated mastery over escalation control. Without overt signalling, it maintained a posture of readiness that was understood, if not articulated. The operation reaffirmed that limited conflict remains possible — even effective — within a nuclearised environment, provided political intent, military capability, and communication are aligned. The stability-instability paradox, long debated in the South Asian strategic conversation, found a contemporary expression in Operation Sindoor.

Equally important was the execution. In just a few years, the Indian armed forces have adapted to multi-domain operations without compromising their conventional edge. Operation Sindoor reflected a level of jointness that went beyond coordination to integration. Cyber capabilities, electronic warfare, intelligence, surveillance, and precision strike systems were brought together in a manner that compressed decision-making timelines and enhanced effectiveness. This integration did not replace conventional strength; it layered new capabilities atop it, creating a more agile and responsive force structure.

The role of civil-military convergence stood out starkly. Sindoor was not merely a military operation. It was a whole-of-government effort. Political clarity enabled operational flexibility. Diplomatic engagement ensured that India's actions were understood internationally as measured and necessary. Economic stability was maintained, with minimal disruption to markets and civilian life. Narrative management, though not flawless, was significantly more coherent than in earlier crises. Yet, the operation also revealed chinks that merit attention — particularly the need for faster, institutionalised communication frameworks and deeper inter-agency integration that does not rely on personalities.

The Pahalgam attack that preceded Sindoor was intended to reinsert Pakistan into the Kashmiri consciousness and to project its continuing relevance. It sought to disrupt a narrative of normalcy built around economic revival, tourism, and declining local recruitment. A year later, that objective appears to have failed. Local recruitment into militancy remains limited, and the economic momentum in the Valley continues. Broader Indian society's engagement through investment, connectivity, and opportunity has played a role in stabilising the environment. A return to pre-Covid levels of terrorism in Kashmir appears unlikely, though complacency would be misplaced.

The nature of the threat, however, is evolving. While local human resources for militancy may have diminished, this cannot be assumed across the border. Pakistan retains the ability to externalise

manpower, and emerging technologies are lowering the threshold for disruption. Terror financing, though under greater scrutiny, is also adapting. The shift from traditional channels to hybrid models — including digital and crypto-based mechanisms — poses new challenges. In a global financial environment marked by flux, these channels could facilitate the reconstitution of proxy support networks. This will require sustained monitoring and adaptive responses from agencies such as the National Investigation Agency.

Operation Sindoor also underscores a broader lesson: Future conflicts will not resemble the past. They will be shorter, sharper, and fought across domains that blur the line between war and peace. Urban centres, digital infrastructure, and societal cohesion may become as significant as traditional battlefields. The ability to absorb shocks, maintain normalcy, and control narratives will be as critical as military success.

For India, the challenge now is one of sustainability. Sindoor has set a benchmark, but its lessons must be institutionalised. Jointness must be deepened, technologies continuously integrated, and decision-making processes further streamlined. Above all, the delicate balance between aggression and restraint must be preserved — not as a slogan, but as a practised doctrine.

The legacy of Operation Sindoor, therefore, lies not just in what it achieved, but in what it revealed. It showed that India can act with precision without losing control, that it can send a decisive message without inviting uncontrolled escalation, and that it can align its instruments of national power in pursuit of clear strategic objectives. In an environment where provocations will persist and conflicts will evolve, that may be its most enduring contribution.

https://indianexpress.com/article/opinion/columns/operation-sindoors-key-lesson-future-conflicts-will-not-resemble-the-past-10676654/

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Operation Sindoor: An emphatic win for India

-by Girish Kumar Garg, retired Rear Admiral of the Indian Navy

Source: The Pioneer, Dt. 07 May 2026

During Operation Sindoor in May 2025, Pakistan conceded defeat before the Indian forces within just 88 hours. Not only did Pakistan acknowledge India's might, but the entire world was left stunned upon witnessing India's power. India executed a deadly strike at a distance of over 100 kilometers deep inside Pakistan; through the remarkable coordination of its three-armed forces, India neutralized nine dangerous terrorist hideouts spread across Pakistan and Pakistan-Occupied Jammu and Kashmir (POJK). These hideouts were the hubs of dangerous terrorist organisations like Lashkar-e-Taiba, Jaish-e-Mohammed and Hizbul Mujahideen, where terrorists were trained against India and then secretly sent to spread terrorism in India.

Through these long-range attacks, India sent a strong message to Pakistan that no terrorist hideout established there, is beyond India's military reach. In these attacks, India gave the enemy a clear example of its precision targeting, operational reach, and unwavering resolve. More than 100 terrorists were killed in these attacks, including the dreaded terrorists Yusuf Azhar (involved in the IC-814 aircraft hijacking), Abdul Malik Rauf, and Mudassir Ahmed (involved in the Pulwama attack).

The most significant aspect of Operation Sindoor was that India remained undeterred by Pakistan's threat of a nuclear attack and exposed it as hollow. India shattered the illusion regarding the very nuclear capability that Pakistan considered to be its defensive shield. Another remarkable aspect of this conflict was that India brought it to a conclusion — on its own terms — within just four days of achieving its objectives. We are seeing the Iran-America and Russia-Ukraine wars, where the wars start but they cannot end due to lack of diplomatic and military support. The swift and successful conclusion of 'Operation Sindoor' was the direct result of India's clarity of objectives, military prowess, restraint, and astute diplomacy. This achievement is unprecedented in world history and is being praised across the globe; indeed, major global institutions are currently conducting research and analysis on this very subject.

Most wars result in extensive damage — effects that often extend beyond the borders of the nations involved and impact not only their economies but also their ordinary citizens. A distinctive feature of Operation Sindoor was that, while terrorist strongholds in Pakistan were successfully dismantled, the conflict had absolutely no adverse impact on India. The missiles fired by Pakistan were intercepted and destroyed mid-air, failing to inflict any damage within Indian territory. This conflict neither triggered instability in any third country — unlike the current Iran-US situation, where oil shortages have created an atmosphere of global instability — nor did it cast any negative shadow upon India's economy. This stands as a testament to India's robust strategic planning, modern technology, and precise execution. As a nation, this demonstrates India's maturity.

In addition to terrorist targets, 11 key Pakistani military installations were also targeted, including Nur Khan Airbase, Rafiq Airbase, Murid Airbase, and Sargodha Airbase, causing significant damage to Pakistan's military capabilities. India is the first country in world history to target 11 military bases of a nuclear-armed nation in a single operation. In that, India destroyed 20 per cent of Pakistan's Air Force. Moreover, India accomplished all of this within a mere four days — an achievement unprecedented in history.

'Atmanirbhar Bharat' (Self-Reliant India) made a substantial contribution to this conflict. The 'BrahMos' and 'Akash' missiles, the 'Akashteer' system, the 'Tejas' aircraft, along with various other modern indigenous weapons and military equipment, delivered exceptional performance and played a decisive role in the war. The world witnessed a tangible demonstration of India's technological self-reliance and acknowledged its prowess. Today, there is an immense global demand for our indigenous military hardware. Not only does this contribute to strengthening our economy, but it also safeguards us from military dependence on other nations — a factor of paramount importance for our national security.

Operation Sindoor will be written in golden letters in the history of our nation. It presented to the world a powerful testament to India's military might, diplomatic acumen, self-reliance, and unwavering resolve against terrorism. It showed the world what a restrained attack is and how it is carried out directly. This war has delivered such a resounding message to Pakistan — and to the terrorist organizations dancing to its tunes — that they will not be able to forget it for a long time to come. This war established new dimensions of inter-service coordination among India's three armed forces, a factor that contributed to the spectacular success achieved in this conflict. The lessons learnt in this will be very helpful in making the framework of our country's proposed 'Joint Theatre Command' more effective.

According to the Government of India, we have not yet ended the war, but have merely called a temporary halt; should Pakistan dare to undertake any further acts of terror, this war will be

resumed — with consequences far more dire than before. This was merely a trailer; the movie is yet to come, my friend! (Yeh to sirf ek trailer tha, picture to abhi baki hai mere dost !!)

https://dailypioneer.com/news/operation-sindoor-an-emphatic-win-for-india

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India-Algeria Joint Commission agrees to further expand defence cooperation during inaugural meeting in New Delhi

Source: Press Information Bureau, Dt. 06 May 2026

The inaugural Joint Commission meeting between India and Algeria took place in New Delhi on May 05, 2026. During the meeting, the two sides discussed areas of mutual interest in the field of training, military exercise, medical cooperation and defence industries. They agreed to further expand defence cooperation activities between the two countries.

Both the countries signed the Rules of Procedure responsible for overseeing the implementation of India-Algeria defence cooperation which will work as a guiding framework for Joint Commission meetings. The meeting was co-chaired by Joint Secretary (International Cooperation) Shri Amitabh Prasad and Chief of Staff of the Naval Forces, Algeria Maj Gen Kaid Nour Eddine. The Indian delegation comprised officers from three Services, HQ, Integrated Defence Staff, Department of Defence Production, DRDO, Armed Forces Medical Services, and Ministry of External Affairs.

Defence relationship between India and Algeria has gained momentum since the signing of a Defence MoU in 2024 and is marked by high-level visits from both sides. The visit of Chief of Staff of the Naval Forces, Algeria marks a pivotal step in India-Algeria defence relations and reinforces the commitment of both sides to work together in areas of mutual interest. Ahead of the meeting, Maj Gen Kaid Nour Eddine laid a wreath at the National War Memorial, New Delhi and paid homage to the fallen heroes. The Algerian delegation will also interact with defence industries during the visit.

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INS Sudarshini arrives at Mindelo, Cape Verde

Source: Press Information Bureau, Dt. 06 May 2026

INS Sudarshini, the Indian Navy's Sail Training Ship, entered the Port of Mindelo, located on São Vicente Island in Cape Verde, on 04 May 2026. The visit to Mindelo is the eighth port call since the flagging off on 20 Jan 2026 and marks the final African stopover before the ship embarks on her trans-Atlantic passage to the Caribbean.

During the visit, the Commanding Officer of INS Sudarshini is scheduled to engage with the maritime authorities of Cape Verde. The programme includes cross-training exchanges, alongwith professional and social interactions with the Cape Verde Coast Guard, aimed at fostering mutual cooperation and understanding. The ship will also be open to visitors during the stopover, offering an opportunity for the local community to experience the vessel and engage with the crew.

The ongoing transoceanic voyage of Lokayan-26 has already covered over 8,000 nautical miles and achieved several historic milestones for the Indian Navy, reaffirming India's expanding

maritime outreach. The deployment stands as a strong symbol of maritime diplomacy, with INS Sudarshini serving as a beacon of India's maritime strength, professionalism, and goodwill on the global stage.

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Visit of Deputy Commander Royal Netherlands Navy and HNLMS De Ruyter to Kochi

Source: Press Information Bureau, Dt. 06 May 2026

Royal Netherlands Navy Ship HNLMS De Ruyter (F804), a De Zeven Provinciën-class frigate, arrived at Kochi on 04 May 2026. The ship's visit coincides with that of a high-level delegation comprising Major General (Royal Marines) Rob De Wit, Deputy Commander of the Royal Netherlands Navy (DCN), and Ms Marisa Gerards, Ambassador of the Kingdom of the Netherlands, to Southern Naval Command (SNC), Kochi.

On arrival at Kochi Harbour, HNLMS De Ruyter was escorted by Fast Interceptor Craft of the Indian Navy and accorded a ceremonial reception with a Naval Band. The ship is presently on a five-month long deployment to the Indo-Pacific and will participate in various maritime exercises with partner nations. The Netherlands naval ship's visit to an Indian port alongside the naval delegation led by the DCN assumes significance towards stronger and closer maritime ties between the two nations. The DCN of Royal Netherlands Navy had earlier participated in the IONS Conclave of Chiefs event as part of MILAN 26, held at Visakhapatnam in Feb 2026.

The Netherlands naval delegation called on RAdm Prakash Gopalan, Chief of Staff, Southern Naval Command. Discussions covered matters of mutual interest in the maritime domain, including avenues for enhancing cooperation between the two Navies. In a significant gesture coinciding with the National Remembrance Day of the Netherlands (04 May), Maj Gen Rob De Wit and Ambassador Marisa Gerards, laid wreaths at the SNC War Memorial – a solemn tribute to the fallen.

The Netherlands delegation is also scheduled to engage in a series of bilateral engagements focusing on enhancing training cooperation and sharing of Best Practices. The delegation will visit various professional training establishments at Southern Naval Command and witness demonstrations of advanced simulators and state-of-the-art training infrastructure. The delegation is also scheduled to visit Cochin Shipyard Limited to gain insights into India's shipbuilding capabilities and explore avenues for industrial cooperation. A series of professional and social interactions between personnel of both navies have also been planned. On departure from Kochi, HNLMS De Ruyter will undertake a Passage Exercise (PASSEX) with an Indian Naval ship, further strengthening interoperability and operational synergy.

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Science & Technology News

Scientists investigate spectacularly different appearances of extragalactic jets from environments around black holes

Source: Press Information Bureau, Dt. 06 May 2026

A team of international astrophysicists have uncovered new insights into the mystery behind the differences in the appearances of extragalactic jets emerging from the environments of supermassive blackholes. They showed that the plasma composition can affect the appearances of these jets. This may help to unravel the mystery of matter content of relativistic jets. At the centers of many distant galaxies reside supermassive black holes with masses millions to billions of times that of our Sun. These black holes don't just eat everything, but can also act like powerful engines, launching narrow beams of plasma and energy known as "jets" that shoot into space at nearly the speed of light. These extragalactic jets can travel for thousands of light-years and emit radiation ranging from low-energy radio waves to high-energy gamma rays.

For a long time, astronomers have been wondering about a noticeable difference in radio images of extragalactic jets, first identified by Fanaroff & Riley in 1974. They broadly classified radio jets into two main categories: FR I & FR II. The FR I jets are "core-brightened," meaning they are brightest near the core and gradually fade into diffuse structures as they move outward. The FR II jets, on the other hand, are "edge-brightened," meaning they are fainter near the core but stay tightly focused over long distances until they hit the surrounding gas, creating giant "hot spots" at their tips. Scientists have for long continued to debate whether this difference is due to the black hole itself, the environment around it, or the intrinsic properties of the jet, such as its speed, temperature, and magnetic strength, etc.

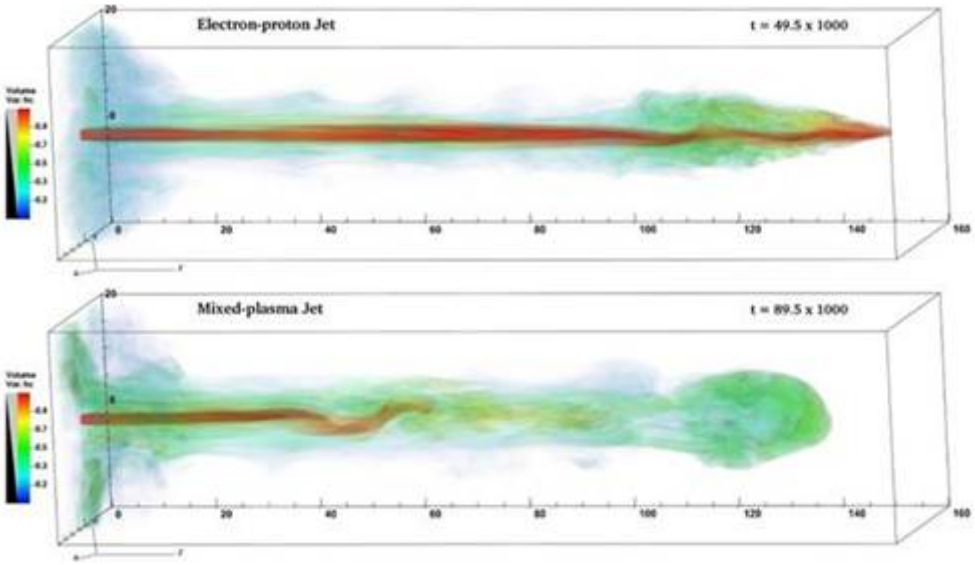

Fig: *3D Volume rendering of the jet tracer for electron-proton and mixed plasma jet*

A new research published in The Astrophysical Journal by Mr. Priyesh Kumar Tripathi, Dr. Indranil Chattopadhyay, and Mr. Sanjit Debnath from Aryabhatta Research Institute of Observational Sciences (ARIES), Dr. Raj Kishore Joshi from the Nicolaus Copernicus Astronomical Center,

Poland, Dr. Ritaban Chatterjee from Presidency University, Kolkata, and Dr. M. Saleem Khan from MJPRU Barelly, used advanced computer simulations to reveal that the secret to these differences may be due to the jet's composition and the environment it travels through. The research team performed large 3D magnetohydrodynamic (MHD) simulations of these jets at kiloparsec scales using a numerical simulation code developed by the Numerical and Theoretical Astrophysics Group at ARIES. Notably, this code incorporates a relativistic equation of state, which can accurately handle a very large range of temperatures encountered at different regions of the jet.

The team discovered that a phenomenon called the "kink instability" is a major player in shaping these powerful, narrow jets, causing wiggles (small bend). In space, if this wiggle grows faster than the jet can flow forward, the jet beam disrupts, spreading its energy into a faint, diffuse cloud - the classic look of an FR I jet. Astrophysical jets aren't made of ordinary matter. Instead, they are composed of plasma, a soup of charged particles including electrons, positrons (the antimatter twin of electrons), and sometimes heavier particles like protons. One of the study's most significant findings is that the composition of jet plasma can determine its fate. Jets can be made of mostly electrons and protons (Hadronic plasma), a mixture that includes positrons (the antimatter twin of the electron-- Leptonic/Mixed plasma).

The simulations showed that jets rich in positrons (lepton-rich) are relatively hotter, causing them to expand and slow down. They often can't stay straight and get twisted by the kink instability. As a result, they form a diffuse, FR I–like structure, where the jet gradually fades instead of ending in a bright hotspot. In contrast, jets composed primarily of electrons and protons were more likely to transition between morphologies, thereby changing their identity. This suggests that what we see through our telescopes might just be a snapshot of a long, evolving cosmic process.

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Japan Minister for Science & Technology Policy and Minister of State for Space Policy, Ms. ONODA Kimi, accompanied by a high-level official delegation, calls on Union Minister Dr. Jitendra Singh

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Japan Minister for Science & Technology Policy and Minister of State for Space Policy, Ms. ONODA Kimi, accompanied by a high-level official delegation, called on Union Minister of State (Independent Charge) for Science & Technology, Earth Sciences, and Minister of State for PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr. Jitendra Singh, to discuss collaboration across different domains, particularly in the field of health and medical devices. India and Japan advanced their strategic partnership in science, technology and innovation during the high-level bilateral engagement with a strong focus on emerging and critical technologies.

The meeting marked the exchange of a Memorandum of Cooperation (MoC) in the field of health and medical devices among the Japan Agency for Medical Research and Development (AMED), the Indian Council of Medical Research (ICMR) and the Department of Science and Technology (DST). A Letter of Intent (LoI) on cooperation in Quantum Science and Technology was also signed

between the Cabinet Office of Japan and DST, opening new avenues for collaboration in next-generation technologies.

Fig: *Japan Minister for Science & Technology Policy, Ms. ONODA Kimi, with Union Minister of State (Independent Charge) for Science & Technology, Earth Sciences, Dr. Jitendra Singh*

The engagement builds upon the outcomes of the visit of Prime Minister Shri Narendra Modi to Japan in August 2025, during which both sides agreed to expand cooperation under the India-Japan Science, Technology and Innovation Partnership across a wide spectrum of domains, including industry and startups. Addressing the gathering, Dr. Jitendra Singh said- India and Japan share a natural synergy in science and technology. While Japan brings advanced technological capabilities, India offers a vast pool of talented human resources. Together, we can accelerate innovation in frontier areas and translate research into impactful societal outcomes.

The Minister added that India's expanding national missions in Quantum Technologies, Cyber-Physical Systems, Electric Mobility, Clean Energy and Advanced Computing reflect the country's strong push towards deep-tech sectors, creating new opportunities for joint research, co-development and industrial partnerships. Speaking on the occasion, Ms. ONODA Kimi appreciated India's rapid economic growth and its strong commitment to innovation, particularly the large-scale adoption of artificial intelligence across sectors. She shared that her visit to India, including interactions with academic institutions, reflected a strong culture of resilience among young researchers, with the ability to learn from failure and continue pursuing innovation.

ONADO Kimi highlighted that Japan's strengths in advanced manufacturing and computational technologies, including quantum and AI, align closely with India's expanding technology ecosystem. She expressed confidence that the agreements exchanged during the meeting, particularly in quantum technologies and health research, will promote deeper collaboration spanning research, application and industrial deployment. During the discussions, both sides exchanged detailed views on strengthening cooperation under India's National Quantum Mission, which is advancing an integrated approach across quantum computing, communication, sensing and materials, along with progress in long-distance quantum secure communication networks.

Japan shared insights on its network of quantum innovation hubs, including global initiatives aimed at industrialisation and standardisation of quantum technologies, and expressed interest in building

linkages with Indian institutions. Both sides discussed enhancing collaboration between research hubs in India and Japan to accelerate innovation and technology deployment. The discussions also covered ongoing initiatives such as researcher mobility and joint innovation platforms, including programmes that enable Indian researchers to undertake collaborative research and industry internships in Japan. Both sides acknowledged the value of such initiatives in strengthening academic and industrial linkages.

In the field of health research and medical technologies, both sides deliberated on expanding cooperation through joint research programmes, capacity building and structured funding arrangements. It was discussed that collaborative research projects could be supported by respective funding agencies in India and Japan, alongside institutional mechanisms such as workshops and researcher-level engagements to identify priority areas of mutual interest. The interaction also reflected a shared understanding on the importance of strengthening science and technology partnerships among like-minded countries to support a free and open Indo-Pacific, with collaboration extending across academia, research institutions and industry. From the Indian side, key participants included Prof. Abhay Karandikar, Secretary, Department of Science and Technology, and Prof. Rajiv Bahl, Director General, Indian Council of Medical Research, along with senior officials associated with international cooperation and quantum initiatives.

The Japanese delegation included senior officials such as Mr. Fukunaga Tetsuro, Director-General, Secretariat of Science, Technology and Innovation Policy; Mr. Hayashi Teiji, Ambassador for Global Health, and representatives from AMED and the Embassy of Japan in India. The meeting concluded with both sides agreeing to intensify engagement at multiple levels, including researcher-to-researcher collaboration, institutional partnerships and industry linkages, to further deepen India–Japan cooperation in science, technology and innovation.

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