जून
June
2025

खंड/Vol. : 50 अंक/Issue : 116

25 /06/2025

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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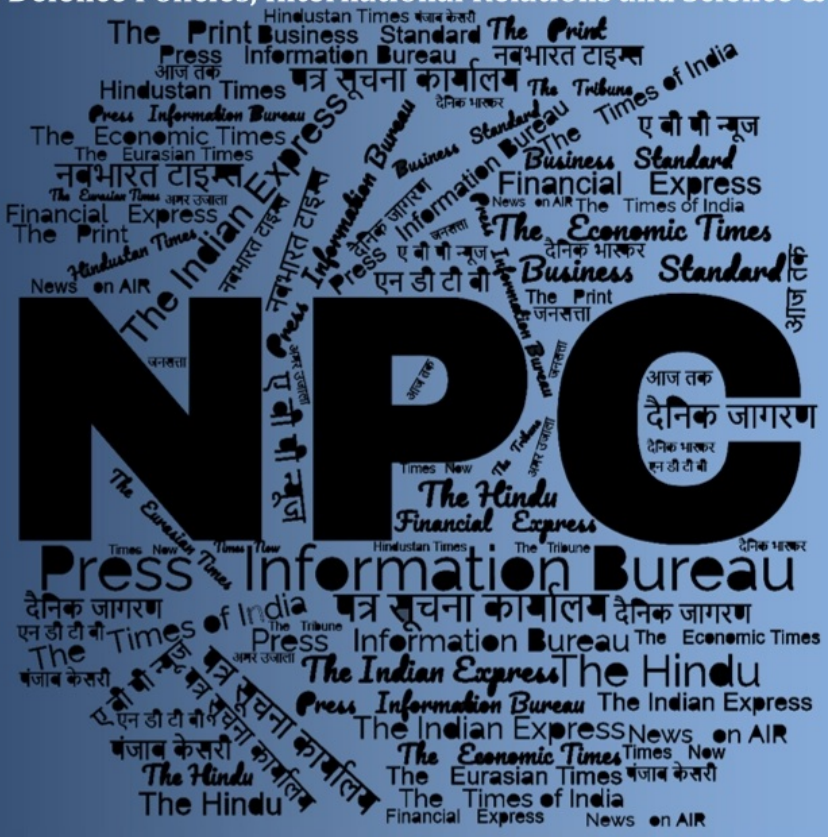

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CONTENTS

Defence News

सेना ने अतंकवाद रोधि तंत्र को मजबूत करने के लिए 13 खरीद अनुबन्ध किये

Source: Jansatta, Dt. 25 Jun 2025

जनसत्ता ब्यूरो
नई दिल्ली, 24 जून।

रक्षा मंत्रालय ने सीमा पार आतंकवाद का मुकाबला करने के लिए भारतीय सेना की अभियानगत तैयारियों को बढ़ावा देने के वास्ते आपात खरीद तंत्र के तहत 1,980 करोड़ रुपए के 13 अनुबंध किए हैं। अधिकारियों ने बताया कि खरीद कार्यक्रम के माध्यम से सेना की एकीकृत ड्रोन पहचान और अवरोधन प्रणालियों को उन्नत किया जा रहा है।

भारत जम्मू-कश्मीर में पाकिस्तान समर्थित आतंकवाद का मजबूती से मुकाबला करने के लिए भारतीय सेना की आतंकवाद रोधी रणनीति को मजबूत कर रहा है। पहलगाम में आतंकवादी हमले के बाद उसने सात मई को पाकिस्तान और पाकिस्तान के कब्जे वाले कश्मीर में नौ आतंकवादी ठिकानों पर हमले किए थे। रक्षा मंत्रालय ने कहा कि वह हल्के रडार, बहुत कम दूरी वाली हवाई रक्षा मिसाइलें और लांचर, रिमोट संचालित हवाई वाहन तथा अन्य सैन्य साजो सामान खरीद रहा है। मंत्रालय ने कहा कि आपात खरीद तंत्र के तहत विभिन्न श्रेणियों के ड्रोन, बुलेट प्रूफ जैकेट और बैलिस्टिक हेलमेट भी खरीदे जा रहे हैं।

अधिकारियों ने बताया कि खरीद कार्यक्रम के माध्यम से सेना की एकीकृत ड्रोन पहचान और अवरोधन प्रणालियों को उन्नत किया जा रहा है।

रक्षा मंत्रालय ने कहा कि वह हल्के रडार, बहुत कम दूरी वाली हवाई रक्षा मिसाइलें और लांचर, रिमोट संचालित हवाई वाहन तथा अन्य सैन्य साजो सामान खरीद रहा।

एक आधिकारिक बयान के अनुसार, 'आतंकवाद-रोधी अभियानों के लिए भारतीय सेना की अभियानगत तैयारियों को मजबूत करने के वास्ते एक अहम कदम के रूप में रक्षा मंत्रालय ने आपात खरीद तंत्र के तहत 13 अनुबंधों पर हस्ताक्षर किए हैं।' मंत्रालय ने कहा कि भारतीय सेना के लिए 2,000 करोड़ रुपए के कुल स्वीकृत परिव्यय के सापेक्ष 1,981.90 करोड़ रुपए की राशि के इन अनुबंधों को अंतिम रूप दिया गया है। अधिकारियों ने बताया कि आपातकालीन खरीद आदेश के तहत फास्ट-ट्रैक प्रक्रियाओं के माध्यम से निष्पादित, अधिग्रहण का उद्देश्य आतंकवाद विरोधी वातावरण में तैनात सैनिकों के लिए स्थितिजन्य जागरूकता, मारक क्षमता, गतिशीलता और सुरक्षा को बढ़ाना है। इसमें कहा गया है कि तेजी से क्षमता वृद्धि सुनिश्चित करने के लिए अधिग्रहण को कम समयसीमा के भीतर पूरा किया जाएगा।

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Defence ministry inks 13 deals to boost Army's operational readiness

Source: The Times of India, Dt. 25 Jun 2025

Defence ministry has inked 13 contracts worth Rs 1,982 crore for fast-track acquisition of air defence missiles, kamikaze drones, counter-drone systems and other equipment to bolster the Army's operational readiness after Operation Sindoor against Pakistan last month. These contracts were inked specially to augment the Army's counter-terrorism capabilities under the fifth phase of the emergency procurement (EP) mechanism, which drastically cuts down the normal long-winded acquisition process, to ensure deliveries within a year.

A much larger EP-6 is also now underway to further boost as well as replenish arms stockpiles of the Army, IAF and Navy after cross-border hostilities with Pakistan from May 7 to 10, with an overall outer limit of around Rs 40,000 crore from the existing defence budget, as was reported by TOI earlier. MoD Tuesday said induction of "modern and mission-critical" weapon systems and equipment through the 13 contracts will enhance "situational awareness, lethality, mobility, and protection" for troops deployed in counter-terror environments. "The EP route continues to be a key enabler in bridging urgent capability gaps and ensuring timely induction of vital operational equipment," an official said.

Among the systems contracted include an additional lot of Russian-origin Igla-1S very short range air defence systems (VSHORADS) with launchers and missiles, which have interception ranges of up to 6km. The Army has been inducting these man-portable Igla-1S systems, which are assembled in India by Adani Defence, in batches over the past couple of years. Another contract was for about a dozen integrated drone detection and interdiction systems (IDDIS) with much-improved capabilities than the existing ones. Both Igla-1S and IDDIS were used during Operation Sindoor, among other air defence systems, to thwart the multiple waves of drone swarms launched by Pakistan.

The other deals were for low-level lightweight radars, night sights for rifles, bulletproof jackets, ballistic helmets and quick-reaction fighting vehicles. Several types of drones, including large remotely-piloted aerial vehicles and smaller loitering munitions, have also been ordered. They include around 450 Nagastra-1R kamikaze drones for Rs 158 crore from Solar Defence and Aerospace Ltd and Switch surveillance hybrid mini-UAVs with VTOL (vertical take-off and landing) capabilities for Rs 137 crore from ideaForge Technology, as reported by TOI Tuesday.

"Procurements under EP-6 will be much larger and include imports. There will be multiple contracts, each not exceeding Rs 300 crore," another official told TOI. Apart from BrahMos supersonic cruise missiles, jointly produced in India with Russia, IAF fighter jets used a wide array of foreign-origin precision munitions to carry out deep strikes first against nine terror hubs on May 7, and then at least 12 airbases and radar sites in Pakistan. The weapons included Israeli-origin air-to-ground Crystal Maze-2 and Rampage missiles as well as the French-origin Scalp cruise missiles and Hammer air-to-ground precision-guided munitions.

https://timesofindia.indiatimes.com/india/defence-ministry-inks-13-deals-to-boost-armys-operational-readiness/articleshow/122058965.cms

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CDS की शक्तियों में हुई बढ़ोतरी, देश की सुरक्षा को लेकर क्या है सरकार का प्लान?

Source: Dainik jagran, Dt. 25 Jun 2025

देश की तीनों सेनाओं के बीच बेहतर तालमेल सुनिश्चित करने के लिए केंद्र सरकार ने महत्वपूर्ण फैसला किया है। रक्षा मंत्री राजनाथ सिंह ने चीफ ऑफ डिफेंस स्टाफ (सीडीएस) जनरल अनिल चौहान को तीनों सेनाओं के लिए आदेश जारी करने का अधिकार दे दिया है।

सीडीएस और सैन्य मामलों के विभाग के सचिव को अधिकृत किया गया

सरकार ने उस पुरानी प्रणाली में बदलाव किया है जिसके तहत सशस्त्र बल के दो या दो या अधिक अंगों या सेनाओं से संबंधित निर्देश और आदेश प्रत्येक सेना द्वारा अलग-अलग जारी किए जाते थे।मंत्रालय ने कहा, सशस्त्र बलों के आधुनिकीकरण और परिवर्तन की दिशा में बड़े कदम के रूप में, रक्षा मंत्री राजनाथ सिंह ने तीनों सेनाओं के लिए संयुक्त निर्देश और संयुक्त आदेश जारी करने के लिए सीडीएस और सैन्य मामलों के विभाग के सचिव को अधिकृत किया है।

यह पहल तीनों सेवाओं में बेहतर पारदर्शिता, समन्वय और प्रशासनिक दक्षता की नींव रखेगी। पहले की प्रणाली में बदलाव किया गया है, जिसमें दो या अधिक सेनाओं से संबंधित निर्देश/आदेश अलग-अलग जारी किए जाते थे।

थिएटराइजेशन मॉडल को लागू पर सरकार का जोर

रक्षा मंत्रालय ने बयान में कहा कि पहला संयुक्त आदेश मंगलवार को जारी किया गया। आदेश में प्रक्रियाओं को सुव्यवस्थित करने, सेनाओं के बीच सहयोग बढ़ाने की आवश्यकता पर बल दिया गया।यह कदम ऐसे समय में उठाया गया है कि सरकार सेना, नौसेना और वायुसेना के बीच सामंजस्य बढ़ाने के लिए थिएटराइजेशन मॉडल को लागू करने की दिशा में लगातार काम कर रही है।

थिएटराइजेशन माडल के तहत सरकार थलसेना, वायुसेना और नौसेना की क्षमताओं को एकीकृत करना चाहती है तथा युद्धों और अभियानों के लिए उनके संसाधनों का इष्टतम उपयोग करना चाहती है।थिएटराइजेशन योजना के अनुसार, प्रत्येक थियेटर कमान में थलसेना, नौसेना और वायुसेना की यूनिट होंगी। किसी विशिष्ट भौगोलिक क्षेत्र की सुरक्षा चुनौतियों से निपटने के लिए ये सभी यूनिट्स एक ही कमांडर के अधीन कार्य करेंगी। इससे बेहतर समन्वय, तीव्र निर्णय-प्रक्रिया और बेहतर युद्ध प्रभावशीलता सुनिश्चित होगी। इस समय थलसेना, नौसेना और वायुसेना की अलग-अलग कमान हैं।

https://www.jagran.com/news/national-cds-anil-chauhan-got-the-authority-to-issue-orders-to-the-three-armies-40002251.html

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Rajnath Singh authorises CDS to issue joint orders for armed forces

Source: Hindustan Times, Dt. 25 Jun 2025

Defence minister Rajnath Singh on Tuesday authorised the chief of defence staff (CDS) General Anil Chauhan, who also heads the department of military affairs, to issue “joint instructions and joint orders” for the three services, a step aimed at boosting jointness in the armed forces.

“This marks a shift from the earlier system wherein instructions/orders pertaining to two or more services were issued by each service separately,” the defence ministry said, calling it a major step towards modernisation and transformation of the country’s military.

The move comes weeks after India notified new rules under an overarching law to boost jointness, command efficiency and operational synergy in the armed forces at a critical moment when they are charting a path towards theaterisation --- a long-awaited reform for the best use of the military's resources to fight future wars.

The two developments come in the aftermath of the May 7-10 clash with Pakistan under Operation Sindoor that saw the three services work jointly for best battle outcomes. The first joint order on 'Approval, Promulgation and Numbering of Joint Instructions and Joint Orders' issued on Tuesday "emphasises the need to streamline procedures, eliminate redundancies and enhance cross-service cooperation," the ministry said in a statement.

"This initiative lays the foundation for improved transparency, coordination and administrative efficiency in the three services." Earlier, the government notified the rules under the Inter-Services Organisations (Command, Control and Discipline) Act, 2023 in the Gazette of India on May 27, signalling its intent to fast-track the setting up of joint services commands --- a key goal of the ongoing theaterisation drive. Such commands will consist of military elements, assets, and personnel drawn from the three services and placed under a commander-in-chief.

Jointness among the three services is an essential prerequisite to the creation of theatre commands and was in focus during Operation Sindoor --- New Delhi's direct military response to the April 22 Pahalgam terror attack in which 26 people were killed. It led to a four-day confrontation that showcased the Indian military's synergy.

The move came a year after the Act was notified in the gazette, empowering the government to set up Inter-Services Organisations --- including joint services commands --- and bestowing powers on the heads of such organisations to exercise command and control over the tri-services personnel serving under them to ensure discipline and effective discharge of duties. Such personnel were earlier governed by the respective laws of the three services: the Army Act, 1950, the Air Force Act, 1950, and the Navy Act, 1957.

The setting up of theatre commands for integrated application of force, operational efficiency, and optimal resource utilisation is among the nine areas identified by the defence ministry for focused intervention in 2025, which the ministry has declared as the "year of reforms."

Other areas include building indigenous capabilities to strengthen the armed forces, simplifying acquisition procedures for swifter capability development and new domains such as cyber and space. The theaterisation model being pursued involves raising the China-centric northern theatre command in Lucknow, the Pakistan-centric western theatre command in Jaipur, and the maritime theatre command in Thiruvananthapuram.

The earlier legal framework of the armed forces had its limitations when it came to tri-services matters as officers of one service lacked the authority to exercise disciplinary and administrative powers over personnel belonging to another service. For instance, a three-star general heading a joint command could not act against air force or navy personnel serving under him. The lack of such powers had a direct impact on command, control and discipline, as earlier reported by HT.

https://www.hindustantimes.com/india-news/rajnath-singh-authorises-cds-to-issue-joint-orders-for-armed-forces-101750775198155.html

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India, South Africa sign pacts on submarine cooperation

Source: The Indian Express, Dt. 25 Jun 2025

India and South Africa signed two agreements in the domain of submarine cooperation during the 9th Joint Defence Committee (JDC) meeting held in Johannesburg, South Africa, on Monday and Tuesday.

Defence Secretary Rajesh Kumar Singh and South Africa's acting Defence Secy Dr Thobekile Gamede

Defence Secretary Rajesh Kumar Singh led the Indian delegation to the meeting, during which he highlighted India's growing prowess in defence manufacturing and exports and reiterated India's commitment to strengthening relations with South Africa.

Areas of mutual interest were discussed and the way forward for further strengthening India-South Africa relations were also identified at the meeting, a Defence Ministry statement said.

"The Defence Secretary recalled the historic relations with South Africa and expressed satisfaction on the significant progress made in bilateral defence cooperation," it said.

The South African side was headed by the acting Secretary for Defence, Dr Thobekile Gamede. The Ministry statement said the meeting began with remarks of the two co-chairs setting the agenda and providing a broad guidance to the two sub-committees that report to the JDC.

The two sub-committees on Defence Policy and Military Cooperation; and Defence Acquisition, Production, Research and Development reported the outcome of the discussions to the JDC.

https://indianexpress.com/article/india/india-south-africa-sign-pacts-on-submarine-cooperation-10086568/

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At SCO Defence Ministers' meet in Qingdao, Rajnath likely to discuss regional peace, anti-terror cooperation

Source: The Hindu, Dt. 24 Jun 2025

Defence Minister Rajnath Singh will lead a high-level Indian delegation at the Shanghai Cooperation Organisation (SCO) Defence Ministers' Meeting to be held at Qingdao, China from June 25 to 26, 2025. During the meeting, the Defence Ministers are expected to discuss a number of issues, including regional and international peace and security, counter-terrorism efforts and cooperation among the Ministries of Defence of SCO member states.

Mr. Singh is expected to highlight India's continued commitment to the principles and mandate of the SCO, outline India's vision towards achieving greater international peace and security, call for joint and consistent efforts to eliminate terrorism and extremism in the region, and stress on the need for greater trade, economic cooperation & connectivity within SCO. Mr. Rajnath Singh will also hold bilateral meetings with the Defence Ministers of some participating countries, including China and Russia, on the sidelines of the meeting. India attaches special importance to SCO in promoting multi-lateralism, political, security, economic and people-to-people interactions in the region.

SCO pursues its policy based on the principles of sovereignty, territorial integrity of nations, non-interference in internal affairs, mutual respect, understanding and equality of all member states. SCO is an inter-governmental organisation established in 2001. India became a full member in 2017 and assumed the rotating Chairmanship in 2023. The SCO membership includes Kazakhstan, China, Kyrgyzstan, Pakistan, Russia, Tajikistan, Uzbekistan, Iran and Belarus, besides India. China has assumed the Chair of the SCO for 2025 under the theme 'Upholding the Shanghai Spirit: SCO on the Move'.

https://www.thehindu.com/news/national/at-sco-defence-ministers-meet-in-qingdao-rajnath-likely-to-discuss-regional-peace-anti-terror-cooperation/article69730807.ece

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India, Nepal discuss military supplies

Source: The Tribune, Dt. 25 Jun 2025

India and Nepal have discussed issues relating to security and defence cooperation such as equipment supplies, training, joint military exercises, disaster relief operations and military exchanges.The discussions were part of the India-Nepal Bilateral Consultative Group on Security Issues (INBCGSI) held in Pune. The two-day meet ended today.

The Ministry of External Affairs said issues relating to security and defence cooperation such as equipment supplies, training, joint military exercises, disaster relief operations and military exchanges were discussed.In addition, the delegations also visited key public and private defence sector manufacturing facilities to explore possibilities for mutually beneficial collaboration, it said. The delegations comprised officials from the respective Foreign and Defence Ministries as well as Directorates of the Indian Army and the Nepali Army.

https://www.tribuneindia.com/news/world/india-nepal-discuss-military-supplies

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भारतीय वायुसेना को मार्च तक मिलेंगे छह तेजस

Source: Dainik Jagran, Dt. 25 Jun 2025

नई दिल्ली, प्रेट्र: भारतीय वायुसेना को मार्च 2026 तक छह हल्के लड़ाकू विमान (एलसीए) 'तेजस' मिल जाएंगे। इन अत्याधुनिक लड़ाकू विमानों का निर्माण कर रही कंपनी हिंदुस्तान एयरोनाटिक्स लिमिटेड (एचएएल) के प्रमुख ने यह जानकारी दी। उन्होंने कहा है कि तेजस की आपूर्ति में हुई देरी का कारण जीई एयरोस्पेस द्वारा इंजन की आपूर्ति में विलंब है। वायुसेना प्रमुख एयर चीफ मार्शल एपी सिंह ने हाल ही में इस मुद्दे को उठाया था, जिसके बाद यह चर्चा का विषय बन गया।

एचएएल के अध्यक्ष और प्रबंध निदेशक (सीएमडी) डीके सुनील ने कहा कि यह देरी केवल अमेरिकी कंपनी जीई एयरोस्पेस द्वारा समय पर एफ404 इंजन की आपूर्ति करने में असमर्थता के कारण हुई है। एक विशेष साक्षात्कार में उन्होंने कहा कि जीई एयरोस्पेस द्वारा चालू वित्त वर्ष में 12 इंजन की आपूर्ति किए जाने की उम्मीद है। इससे भारतीय वायुसेना को लड़ाकू विमानों की आपूर्ति में आसानी होगी। उन्होंने कहा-'हर कंपनी को आलोचनाओं का सामना करना पड़ता है। दुर्भाग्यवश, एलसीए मार्क-1ए के मामले में भी ऐसा ही हुआ है। हमने विमान बना लिए हैं और आज की तारीख में हमारे पास छह विमान तैयार हैं।' उन्होंने आगे कहा -'लेकिन जीई एयरोस्पेस से इंजन की आपूर्ति नहीं हुई है। उसे 2023 में इंजन की आपूर्ति करनी थी, लेकिन अब तक हमें केवल एक इंजन मिला है। एचएएल को मार्च 2026 तक 12 जेट इंजन मिलने की उम्मीद है। उन्होंने आश्वासन दिया कि एचएएल लगातार विमानों का निर्माण कर रहा है और वित्त वर्ष के अंत तक उन्हें आपूर्ति करने की स्थिति में होगा।

एचएएल ने अगले वर्ष में 16 जेट के उत्पादन की योजना बनाई है, बशर्ते जीई एयरोस्पेस से इंजन की निरंतर आपूर्ति संभव हो सके। रक्षा मंत्रालय ने फरवरी 2021 में वायुसेना के लिए 83 तेजस एमके-1ए जेट की खरीद के लिए एचएएल के साथ 48,000 करोड़ रुपये का सौदा किया था।

- हिंदुस्तान एयरोनाटिक्स लिमिटेड के सीएमडी सुनील ने दी जानकारी
- आपूर्ति में देरी जीई एयरोस्पेस से इंजन आपूर्ति में देरी के कारण हुई

पहले स्वदेशी लाइट काम्बैट हेली प्रचंड की आपूर्ति 2028 में

एचएएल प्रमुख ने भारतीय सेना को प्रचंड हेलीकाप्टरों की आपूर्ति पर भी बात की। मार्च में रक्षा मंत्रालय ने सेना की लड़ाकू क्षमता को बढ़ाने के लिए 62,700 करोड़ रुपये की लागत से 156 हल्के लड़ाकू हेलीकाप्टर प्रचंड की खरीद के लिए एचएएल से करार किया था। एचएएल के शीर्ष अधिकारी ने कहा कि प्रचंड की डिलीवरी 2028 में शुरू होगी। लाइट काम्बैट हेलीकाप्टर (एलसीएच) प्रचंड भारत का पहला स्वदेशी रूप से डिजाइन और विकसित लड़ाकू हेलीकाप्टर है जो 4500 मीटर से अधिक की ऊंचाई पर संचालन करने की क्षमता रखता है।

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U.S.'s heavy duty attack on Iran's nuke sites

Source: The Hindu, Dt. 25 Jun 2025

On June 21, U.S. President Donald Trump announced that the U.S. military carried out precision strikes on three key Iranian nuclear facilities, mainly Fordow, Natanz and Isfahan. He further stated that the strikes were a "spectacular" military success and that Iran's key nuclear enrichment facilities have been "completely and totally obliterated". The key part of these strikes were conducted by the B-2 Spirit stealth bombers which dropped GBU-57 bunker busters to penetrate

the Fordow enrichment facility located deep inside a mountain, that was beyond the capability of Israel. Later on Sunday, U.S. Secretary of Defence Pete Hegseth and Gen. Dan Caine, Chairman of the Joint Chiefs of Staff detailed the strikes carried out by the U.S. Central Command (Centcom) under 'Operation Midnight Hammer'.

How were the strikes carried out?

After proceeding quietly and with minimal communication for 18 hours from the U.S. to the target area, the first of the seven B-2 Spirit stealth bombers dropped two 30,000 lb GBU-57 Massive Ordnance Penetrator (MOP) 'bunker buster' bombs at the Fordow site at approximately 6:40 p.m. EDT, Gen. Caine told media houses. The initial mission package also included several decoy aircraft that flew west over the Pacific Ocean as "a deception effort known only to an extremely small number of planners and key leaders here in Washington," he stated.

"The U.S. employed several deception tactics — including decoys — as the fourth and fifth generation aircraft pushed out in front of the strike package at high altitude and high speed, sweeping in front of the package for enemy fighters and surface-to-air missile threats", according to Gen. Caine. "Following the initial strike on Fordow, the remaining B-2s went on to deploy their ordnance, eventually totalling 14 MOPs hitting the targeted areas," he said noting that this was the first operational use of the GBU-57 MOP.

In addition to the MOPs, a U.S. submarine launched more than two dozen Tomahawk land attack cruise missiles at key infrastructure targets at the Isfahan site, bringing the overall total of precision-guided weapons employed during the operation to approximately 75. "Initial battle damage assessments indicate that all three sites sustained extremely severe damage and destruction," Gen. Caine stated, although later in the day several U.S. officials expressed doubts on the extent of damage to the Fordow facility.

What is a B-2 stealth bomber?

The U.S. Air Force (USAF) operates the country's bomber fleet which consists of 114 B-1 Lancers, 21 B-2 Spirit and 137 legacy B-52 aircraft. Of these, B-2 is the only fully stealth aircraft while the B-1 has some stealth features. Each B-2 costs over $2 billion, the most expensive aircraft ever, and so only 21 aircraft were built. One B-2 crashed in 2008 while another was damaged in 2022, and with the repair work deemed prohibitive, it is set to be retired soon. This leaves only 19 B-2 aircraft in active inventory.

The B-2 has always inspired awe with its bat-like shape, and has been extensively showcased by Hollywood. It is a dual-capable multi-role heavy bomber, powered by four engines. According to the USAF, the B-2's low observability is derived from a combination of reduced infrared, acoustic, electromagnetic, visual and radar signatures. "These signatures make it difficult for sophisticated defensive systems to detect, track and engage the B-2," the USAF states. The B-2 made its first flight in 1989 and began operations in 1997. With a crew of two, it can carry a payload of 40,000 lb, has an un-refuelled range of 6,000 miles and a service ceiling of 50,000 feet. It is 69 feet long, 17 feet high and has a wingspan of 172 feet, half the length of a football field.

For Sunday's mission, the B-2s flew 37-hours non-stop, from their home base to the target location and back, re-fuelling several times mid-air, making it the second longest mission ever. The B-2s hold the record for the longest air combat mission in history. As per its manufacturer Northrop Grumman, in 2001, six B-2s were the first to enter Afghan airspace for a record setting 44-hour mission. According to an article in the New York Post, the B-2 pilots "have their cockpits outfitted

with mini refrigerators and a microwave oven to keep their crew fed and alert" and also have a toilet and enough space for one person to lay down and rest.

A March 2025 report of the U.S. Congressional Research Service (CRS) states that the USAF continues to modernise the B-2. Northrop Grumman was awarded a contract in 2024 of up to $7 billion to maintain and improve B-2 stealth and communications capabilities, engines, and displays through 2029.

The B-2s are extremely maintenance intensive. According to a detailed account in The Atlantic on the B-2s employed in Libya in 2018, 100 hours of maintenance were required for every hour of flight. This is mainly because the advantage of stealth is B-2's edge, and it is achieved by design and radar-absorbing materials. To maintain them, the aircraft needs temperature controlled hangers to protect against changes in temperature, humidity, and dust.

Why was there a need for 'bunker-busters'?

The nuclear fuel enrichment site at Fordow is located 60 miles south of Iran's capital Tehran in the mountainous region close to the city of Qom. The facilities are buried deep underground, estimated to be 80-90m deep, to withstand Israeli airstrikes. Iran acknowledged its existence only in 2009. That's why there was a need for the GBU-57 MOP and the B-2 Spirit that can carry it. It also meant that the U.S. had to officially enter the Israel-Iran conflict which began on June 13, when Israel started bombing Iranian nuclear and military facilities.

The GBU-57 MOP, according to the USAF is a weapon system designed "to accomplish a difficult, complicated mission of reaching and destroying our adversaries' weapons of mass destruction located in well protected facilities." It is more powerful than its predecessor, the BLU-109 and the GBU-28. According to USAF, a total of 20 MOPs were contracted. The B-2 Spirit is the only aircraft in the USAF capable of employing the 20.5 ft, 30,000 lb MOP which is guided by GPS to reach and destroy targets. Given the weight, each B-2 can hold two MOP bombs.

According to a 2012 CRS report, the GB-57 has a penetration capability of up to 200 feet underground before exploding. "By some reports, it was expected to penetrate as much as 200 feet through 5,000 psi reinforced concrete, and 25 feet into 10,000 psi reinforced concrete," it states. The New York Times quoted a senior U.S. official who stated that the strike on the Fordow site did not destroy the heavily fortified facility but has severely damaged it, taking it "off the table." The person noted that even 12 bunker-busting bombs could not destroy the site.

What next?

This mission was not, and has not been, about regime change, Mr. Hegseth said. "The president authorised a precision operation to neutralise the threats to our national interests posed by the Iranian nuclear program and [in support of] the collective self-defense of our troops and our ally, Israel." However, it is unclear whether the objectives of fully neutralising the nuclear enrichment facilities of Iran has been accomplished. Moreover, the whereabouts of the enriched uranium are unknown, as per U.S. officials.

A next generation bomber, the B-21 Raider, a dual-capable penetrating-strike stealth bomber, is currently under development. The B-21 is similar to the B-2, but slightly smaller, with a distinctive beak domed centre. According to a USAF fact sheet, the B-21 has been designed with an open systems architecture to allow for faster new software integration. With a plan to make them enter service in the next few years, the USAF is looking at acquiring a minimum of 100 aircraft at an average unit procurement cost of $550 million.

https://www.thehindu.com/news/international/uss-heavy-duty-attack-on-irans-nuke-sites/article69731601.ece

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Why Op Sindoor set India's Drone Sector Buzzing

Source: The Times of India, Dt. 25 Jun 2025

With the Indian Army ordering small loitering munitions and mini surveillance drones in two contracts, collectively worth Rs 295 crore, from domestic private sector companies, the buzz around India's drone tech sector is getting louder.

This was, in many ways, bound to happen. Drones have emerged as the newest weapons of choice in modern warfare — as seen in the Russia-Ukraine war, Israel-Hamas conflict, Operation Sindoor and, more recently, in the Iran-Israel war.

Of the Army's two contracts, the first is for around 450 Nagastra-1R loitering munitions, at a cost of Rs 158 crore, from the Nagpur-based Solar Defence and Aerospace Ltd. Also called kamikaze drones, these are capable of night operations. The other deal is worth Rs 137 crore with ideaForge Technology for hybrid mini-UAV (unmanned aerial vehicles) systems, variants of the Switch drones with VTOL (vertical take-off and landing) capabilities, for ISR (intelligence, surveillance and reconnaissance) missions.

Variants of the Nagastra and the VTOL-capable UAVs are already in the Army's inventory and were used during the cross-border hostilities with Pakistan between May 7 and 10.

Shopping For New Teeth

Triggered by Operation Sindoor, the fledgling sector is bracing for a tsunami of orders as govt races to add more teeth to its arsenal of indigenous unmanned aerial systems, unmanned combat air systems (UAS/UCAS) and counter drone systems (C-UAS).

Since the India-Pakistan hostilities ended, the armed forces have been busy with demos and field trials of next-gen defence tech under simulated operational conditions at Pokhran, Babina and Joshimath, among others. They have been set a budget of around Rs 40,000 crore for emergency procurements, though the actual spend would be far less, sources said.

The armed forces are shopping for loitering munitions, kamikaze drones, surveillance and reconnaissance drones, swarm drones, first person view (FPV) drones and even target or dummy drones that can be deployed to draw enemy fire and exhaust its arsenal.

"Any country that wants to fight tomorrow's war must have the capability to design, develop and manufacture different types of drones in large quantities," says Niti Aayog member V K Saraswat. Saraswat, a former director-general of Defence Research and Development Organisation (DRDO), who also served as chief scientific adviser to former defence minister A K Anthony, says UAS development and manufacturing will become a major economic activity, driven by military requirement, post-Op Sindoor.

$11-Billion Opportunity

According to Indian govt and Drone Federation India (DFI) estimates, the demand is projected to unlock a $11 billion opportunity by 2030. DFI numbers show that in 2023, the Indian drone market had just a minuscule share — 1%, or $268 million — of the $26 billion global drone market, poised to soar to $90 billion by 2030.

Of this $268 million, the military accounted for the largest chunk, at 33% ($87 million). This trend is expected to carry over to 2030, with military demand — projected to grow at a CAGR of 70% — slated to account for a total revenue potential of nearly $3.6 billion (32%) by then.

"There is a huge appetite for drone and anti-drone solutions since Operation Sindoor," says DFI president Smit Shah. Even by conservative estimates, the sector could corner around Rs 8,000 crore-Rs 10,000 crore of the total ongoing emergency procurement budget in 12-18 months, he adds.

"Operation Sindoor has been an inflection point for the industry," says Vishal Saxena, VP-business development, ideaForge.

The recent conflict saw 'Make in India' UCAS and C-UAS systems of public and private sector biggies get battle-tested: Adani Group's Alpha Design Technologies (SkyStriker), Tata Advanced Systems (ALS-50), DRDO, Bharat Electronics (BEL) and Bharat Dynamics (BDL), as well as companies like ideaForge, Paras Defence, IG Drones, Solar Industries, Zuppa, Zen Technologies and Indrajaal.

Amit Mahajan, director, Paras Defence, and Ashutosh Baheti, CEO, Paras Anti-Drone, say they expect a tenfold to hundredfold jump in sales in a few months. The drone thrust has also propelled players like Raghu Vamsi Aerospace Group, which supplies critical missile sub-systems, to take the plunge.

"The industry expects to sell more than five-to-six times the amount of drone

ARMY'S LATEST ORDERS

450 Nagastra-1R loitering munitions (kamikaze drones)

Total Order Value
₹158cr

From | Solar Defence and Aerospace Ltd

Uses

- Loiters until a target is designated, then crashes into it
- Capable of night operations

Hybrid miniUAV (Switch drones)

Total Order Value
₹137cr

From | ideaForge Technology

Uses

- Used for ISR (intelligence, surveillance and reconnaissance) missions
- Capable of VTOL (vertical take-off and landing)
- Long range, high endurance, high altitude last-mile ops

On Shopping List

- Swarm drones
- First person view (FPV) drones
- Target or dummy drones (deployed to draw enemy fire and exhaust arsenal)

Indian drone market

- $268 million in 2023

$90 billion in 2030 *(Indian govt and Drone Federation India estimates*

and anti-drone solutions in a few months than what was sold since inception in India," says its MD, Vamsi Vikas Ganesula.

All Drones On Deck

Even manufacturers of non-military drones are being tapped. "We have received a lot of queries from the armed forces after the Pahalgam attack," says Prem Kumar Vislawath, co-founder & CEO, Marut Drones, which makes drones used in agriculture.

BluJ Aerospace, which is developing logistics eVTOL (electric vertical take-off and landing) drones, has also received inquiries from defence establishments for high-altitude logistics requirements and is keenly watching this

opportunity, says its co-founder and CTO, Utham Kumar Dharmapuri.

Countering Them

With Operation Sindoor highlighting vulnerabilities to drone threats, there is a surge in demand for drone detection and neutralisation systems, too. "We are seeing a huge jump in inquiries," says Ashok Atluri, managing director, Zen Technologies, whose solutions were deployed in Operation Sindoor.

"The demand is high," adds Kiran Raju, founder & CEO of Indrajaal, which was operational at a naval port in Gujarat and is now being deployed at India's largest naval port in Karnataka. "We need a complete anti-drone ecosystem," says Saraswat. "This includes radar systems, electro-optical sensors, radio frequency detectors, and both soft and hard kill solutions."

The Indigenous Push

The drone rush also promises to give a big boost to indigenous manufacturing capabilities, with govt learnt to have told manufacturers to ensure absolutely no use of Chinese components. This has sent Indian manufacturers scrambling to develop local supply chains.

"The weaponisation of supply chains is a concern. Countries can deny you critical technology," admits Saxena, adding that his company eliminated Chinese components from its supply chain much earlier, and is now investing in suppliers to create a robust domestic ecosystem. "We're now ensuring multiple global sources for every critical component while simultaneously developing Indian alternatives," he adds.

India's few critical sub-systems manufacturers, such as Hyderabad-based Vector Technics, which makes propulsion and power distribution systems for drones, are inundated with orders. "Earlier, none of the Indian manufacturers used to buy components from us, which is why we primarily focused on international markets like the US and Europe," says Prudhvi Raj, its co-founder & CEO. "Now, Indian companies are trying to find supply chains within India. We got sold out in a span of two to three weeks."

Anticipating a further surge, the company has ramped up capacities. "Previously, we were delivering somewhere like 300 motors and other components daily, but have now ramped up to over 20,000 per day," he adds.

"There should be a mission mode programme to indigenously design, develop and manufacture different types of drones and supply them to the armed forces in time," says Saraswat, calling for the country's research institutions, academic institutions and industry to collaborate.

> "There is a huge appetite for drone and anti-drone solutions since Operation Sindoor. Even by conservative estimates, the sector could corner around Rs 8,000 crore-Rs 10,000 crore of the total ongoing emergency procurement budget in 12-18 months
> —SMIT SHAH | DFI PRESIDENT

Other Challenges

The other big challenge is that the Indian drone industry is now mostly geared towards non-military applications. "About 70% of the industry is non-military," says Mahajan. "Very few companies have focused on military drones."

Scaling up manufacturing to meet the demand surge poses challenges. "We may have the capability, but do we have the capacity?" Saxena asks. "Creating capacity requires confirmed demand-signalling," he says. "While in the near future, I see a four-to-five-times demand from just one customer (the military) and maybe from other customers, we can't risk building capacity only to see demand taper off in two years," he adds.

It's also like the classic chicken-and-egg conundrum. "The learning has been that demand will be urgent when there's a conflict. But you can't really think of increasing capacity at that time," says Shah of DFI.

According to industry sources, there are less than 12 companies in India making drone subsystems, clustered around tech hubs like Bengaluru, Hyderabad, Mumbai-Pune, and Noida.

Export Potential

Indian manufacturers could also see export opportunities from countries looking to reduce dependence on China.

"We have queries coming from everywhere — the US, Europe, Southeast Asia, the ASEAN region," Shah says, adding, "Countries are looking at India as a potential supplier, specifically against the Chinese threat that everyone has now realized. The focus is on positioning Indian systems as reliable and cost-effective alternatives."

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Science & Technology News

आज अंतरिक्ष स्टेशन को उड़ेंगे शुभांशु

Source: NavBharat Times, Dt. 25 Jun 2025

पीटीआई, नई दिल्ली: अमेरिकी अंतरिक्ष एजेंसी नासा ने मंगलवार को घोषणा की कि भारतीय अंतरिक्ष यात्री शुभांशु शुक्ला को इंटरनैशनल स्पेस स्टेशन (ISS) ले जाने वाले एक्सिओम-4 मिशन के लिए लॉन्चिंग अब 25 जून को होगा। नासा के एक बयान में कहा गया, 'नासा, एक्सिओम स्पेस और स्पेसएक्स ने अंतरराष्ट्रीय अंतरिक्ष स्टेशन के लिए चौथे निजी अंतरिक्ष यात्री मिशन 'एक्सिओम मिशन 4' के प्रक्षेपण के लिए बुधवार तड़के का लक्ष्य तय किया है।' एक्सिओम-4 वाणिज्यिक मिशन का नेतृत्व कमांडर पैगी व्हिटसन कर रही हैं, जिसमें शुक्ला मिशन पायलट हैं। हंगरी के अंतरिक्ष यात्री टिबोर कपू मिशन विशेषज्ञ हैं।

शुभांशु शुक्ला

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After delays, Axiom-4 with India's Shukla set for launch today

Source: The Indian Express, Dt. 25 Jun 2025

After multiple delays, the Axiom-4 mission is now slated for launch Wednesday, according to US space agency NASA. Carrying India's Shubhanshu Shukla and three other astronauts, the mission is scheduled to take off from Kennedy Space Centre's Complex 39A around noon IST.

After a 28-hour journey, the spacecraft is expected to dock with the International Space Station (ISS) at around 4:30 pm (IST) Thursday. The astronauts are slated to spend around 14 days on the ISS.

The announcement of the new launch slot came Tuesday morning, just a day before the mission that was previously scheduled for June 22.

The mission has been delayed several times since its initial schedule of May 29 due to various reasons, ranging from problems in the launch vehicle and changes in pressure on ISS' Zvezda module. The leak in Zvezda was first detected in 2019 and space agencies have been working for years to fix it. Repairs were carried out ahead of the Axiom-4 mission.

"Because of the space station's interconnected and interdependent systems, NASA wants to ensure the station is ready for additional crew members, and the agency is taking the time necessary to review data," NASA had said while postponing the June 22 launch with two days to go.

The final delay came because all systems needed to be checked, according to an Indian official. "Even after fixing the leak on the ISS, the US space agency had to check all systems to see whether they had been impacted. This was the reason for the additional delay," the official said.

The astronauts — US' Peggy Whitson, Poland's Slawosz Uznanski-Wisniewski, Hungary's Tibor Kapu and Shukla — have been in quarantine since mid-May, as per norms, to ensure that they do not get an infection while in space and to prevent the introduction of bugs in the space environment.

The mission had also been postponed because of problems in the electrical harness of the SpaceX Dragon spacecraft that was to carry the astronauts, a liquid oxygen leak in the Falcon-9 rocket and inclement weather in the flight path. This was followed by repairs for the leak on ISS.

Themed 'Realize the Return', the fourth private mission to the ISS will see an Indian back in space after 40 years — in 1984, Wing Commander Rakesh Sharma spent almost eight days on-board the Soviet Salyut-7 Orbital Station.

"When Rakesh Sharma went to space in 1984, India did not even have a launch pad. The first launch pad came up in 1993 and the second in 2005. Now, we are already gearing up for our own human mission. India is now a partner and at the forefront of research," Union MoS Dr Jitendra Singh had told The Indian Express earlier.

On the ISS, Shukla — referred to as "Shux" by his crew mates — will conduct seven experiments for India and participate in several other international exercises. From the space station, he will also interact virtually with students, academics, dignitaries and representatives from the country's budding space industry.

https://indianexpress.com/article/india/after-delays-axiom-4-with-indias-shukla-set-for-launch-today-10086539/

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AI transforming meteorological prediction through innovation approaches: IIT Delhi

Source: The Pioneer, Dt. 25 Jun 2025

PIONEER NEWS SERVICE
New Delhi

Artificial intelligence is transforming meteorological prediction through innovative approaches to tropical cyclone tracking and monsoon forecasting, two recent studies by the Indian Institute of Technology (IIT), Delhi, researchers have demonstrated. The studies conducted under Professors Sandeep Sukumaran and Hairprasad Kodamana, have been published in the "Journal of Geophysical Research: Machine Learning and Computation".

The first study achieved significant advances in monsoon prediction through the application of transformer neural networks. The research team trained their model on a quarter-century of high-resolution satellite precipitation data, enabling the system to accurately forecast monsoon intraseasonal oscillation patterns with an 18-day lead time. "This represents a substantial improvement over existing dynamical models while requiring dramatically fewer computational resources.

The AI system's ability to reliably predict active and break phases of the monsoon could have profound implications for agricultural planning and water resource management across South Asia," said PhD scholar KM Anirudh.For the second study, the researchers conducted a comprehensive evaluation of four leading AI weather prediction systems.

The research team compared the performance of GraphCast, PanguWeather, Aurora and FourCastNet against conventional numerical weather prediction models. "The AI systems demonstrated remarkable capability in 96-hour cyclone track forecasting, maintaining positional accuracy within 200 kilometres while completing computations in seconds rather than hours.

"The Aurora model emerged as the top performer, with researchers attributing its superior performance to the system's transformer-based architecture and incorporation of diverse meteorological datasets," said PhD scholar Pankaj Lal Sahu.

"Notably, these AI models successfully internalised complex atmospheric dynamics, including vorticity patterns and pressure gradients, without explicit programming of physical equations, achieving this through advanced machine learning techniques alone," he said.

Hariprasad Kodamana, Associate Professor at the Department of Chemical Engineering, informed that the two studies collectively highlight the transformative potential of artificial intelligence in weather prediction.

"As extreme weather events become more frequent due to climate change, such AI-powered forecasting tools may prove indispensable for vulnerable communities worldwide," he said.

Sandeep Sukumaran, Associate Professor at the Centre for Atmospheric Sciences, explained that by combining the accuracy of traditional physical models with the speed and efficiency of machine learning.

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Union Minister Dr. Jitendra Singh Calls for Closer Collaboration among academic Institutions of Higher Education—Such as IITs, IIMs, AIIMS, IIMC, CSIR—and Scientific Institutions to Build Sustainable Startups

Source: Press Information Bureau, Dt. 25 Jun 2025

After inaugurating a state-of-the-art Incubation Centre at IIM Mumbai, Union Minister of State (Independent Charge) for Science & Technology, Dr. Jitendra Singh, made a clarion call for closer collaboration among academic institutions of higher education and scientific research, such as IITs, IIMs, AIIMS, IIMC and CSIR, to nurture sustainable startups and innovation-driven entrepreneurship.

While interacting with students, Dr. Jitendra Singh emphasized that "The age of working in silos is over." He asserted that the integration of academia, industry, and government is essential for India to meet its rapid development goals. "Greater synergy between the public and private sectors is not an option—it's a necessity," he remarked.

Dr. Jitendra Singh, Union Minister of State (Independent Charge) for Science & Technology, Earth Sciences, and MoS in the Prime Minister Office, Dept. of Space and Atomic Energy highlighted the democratization of civil services and the growing wave of women-led development over the past

decade. Citing the Aditya L1 space mission, he proudly shared that it was led by women scientists, reflecting the inclusive and aspirational rise of India.

The Minister recounted a powerful story of a 16-year-old girl from a militancy-affected town who cracked the IIT entrance exam without coaching, using just a smartphone and determination—"12 hours a day for 8 months, powered by the internet," she told him. "This is the new India, where dreams transcend limitations," said the Minister.

Dr. Jitendra Singh also drew a contrast between the last 11 years and the preceding decade, noting that earlier generations had limited career choices.

"Today's youth have a wide array of professional avenues, supported by a rise in national self-esteem, which is reflected in how Indian students abroad command respect and better offers," he said. He also noted that in recent years, girls have consistently topped the Civil Services Examination, signalling a significant shift in the country's social landscape.

Charting India's rise in research and development, Dr. Singh said, "India's Gross Expenditure on R&D (GERD) has doubled in the last decade—from ₹60,196 crore in 2013-14 to ₹1,27,381 crore today—under Prime Minister Modi's leadership."

He underscored that the future of India's economy will be shaped by homegrown advancements in biotechnology, artificial intelligence, and quantum computing. Key to this has been government support, like the launch of India's first indigenous DNA-based COVID vaccine, under the Department of Biotechnology (DBT).

He also hailed the BioE3 Policy—Biotechnology for Economy, Environment, and Employment—as a game-changer, propelling India to the forefront of global biotech.

With India rising to the 3rd largest startup ecosystem in the world, Dr. Jitendra Singh revealed that the number of startups has grown from 350 in 2014 to over 1.5 lakh in 2025. "Startups in space tech are adding significant value," he said, noting that the government has allowed 100% FDI in the space sector and set up a ₹1,000 crore venture fund for space-based startups.

Dr. Jitendra Singh debunked the myth that startups are limited to IT professionals from elite institutions. "Startups are built on **aptitude, ideas, and innovation," he stated. He reiterated that entrepreneurial potential exists across every sector, from biotech to agri-tech.

Dr. Jitendra Singh shared the success of the Aroma Mission, where more than 3,000 lavender-based startups are generating substantial income in rural India, creating employment and transforming lives.

The Minister also emphasized that the National Education Policy (NEP-2020) is a strong enabler of the startup ecosystem, offering students flexibility in subject selection and a holistic learning environment to become innovators, not just job seekers.

Dr. Jitendra Singh pointed out that agriculture, though contributing only around 14% to GDP, supports the largest section of India's population. He stressed the hidden potential in this sector and the importance of leveraging technology and innovation to unlock it.

Dr. Jitendra Singh also called the present youth "fortunate and uniquely positioned" as they will be at the prime of their careers in 2047, when India celebrates 100 years of Independence.

“You are the generation that will lead a Viksit Bharat—a fully developed India. This is not just your opportunity, it is your responsibility,” he stated, urging students to prepare themselves for the historic role they are destined to play in shaping the nation’s future.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=2139279

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A new innovation cleans water with the help of Sunlight, Vibration and Artificial Intelligence (AI), enables Bio-degradable, Eco-friendly and Low-cost Technology

Source: Press Information Bureau, Dt. 25 Jun 2025

We may soon have a water filter that not only traps pollutants but also destroys them, using sunlight, gentle vibrations, and a slight help from artificial intelligence (AI).

Many industries — from textiles to pharmaceuticals — dump wastewater laced with harmful dyes like Methylene Blue and Congo Red into the environment.

These pollutants do not just discolour water, they pose serious risks to ecosystems and human health, leading to skin problems, respiratory diseases, and more. Current solutions involve physical and chemical oxidation techniques, like electrochemical, ozone, and related methods are energy intensive and which require expensive chemicals making them hazardous for the environment.

A team of researchers at the Institute of Nanoscience and Technology (INST) in Mohali, an autonomous institute of the Department of Science and Technology (DST) have designed a 3D-printed scaffold made from biodegradable polylactic acid (PLA) which is known for piezo-photocatalytic properties.

Onto this scaffold, Dr Aviru Basu coated a special material called Bismuth Ferrite ($BiFeO_3$), a catalyst known for its ability to break down pollutants when exposed to light and mechanical energy.

This combination of Scaffold & Catalyst published in the journal Nano Energy (Elsevier) enables a powerful process called piezo-photocatalysis, where both sunlight and tiny vibrations help activate the catalyst. Even on cloudy days, the vibrations ensure that the cleaning does not stop. This is a smart solution to the limitations of traditional solar-powered purification.

The hybrid system removed 98.9% of Congo Red (CR) and 74.3% of Methylene Blue (MB) from wastewater samples surpassing current high-end treatment methods.

The innovation is biodegradable and eco-friendly, low-cost and reusable, avoids waste and excessive chemical use and is highly efficient and scalable. It is ready for adaptation in various industries and even remote communities and powered by renewables harnessing sunlight and vibrations instead of fossil fuels.

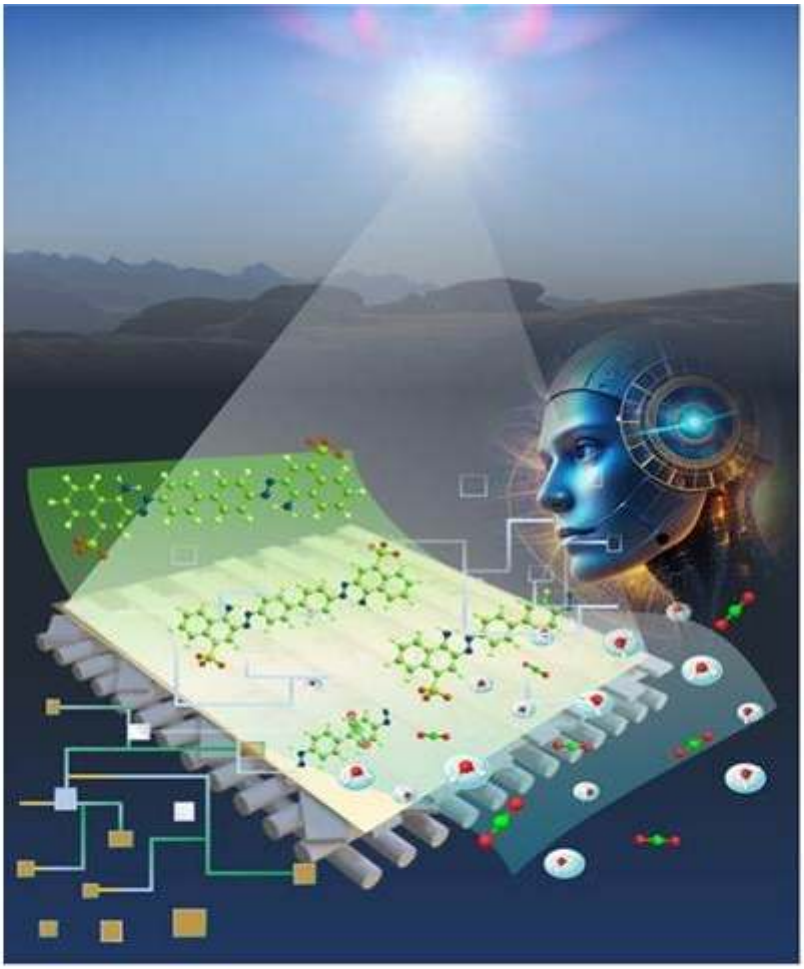

Fig *This illustrates the sunlight-activated piezo-photocatalysis of a $BiFeO_3$-coated 3D-printed PLA substrate, effectively degrading dye using a powerful combination of sustainable solar energy, advanced catalysis, and predictive machine learning for environmental remediation.*

The scientists have also trained machine learning models — using tools like Artificial Neural Networks — to predict how well the system would perform under different conditions. The models achieved accuracy scores of up to 99%, helping the team fine-tune their system for maximum efficiency.

For making this possible, the researchers synthesised the BFO nanoparticle catalyst via a sol-gel method, developed 3D printing of PLA scaffolds, carried out coating and testing for dye degradation and developed Machine learning models to predict performance.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=2139248

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