दिसंबर
Dec
2025

खंड/Vol. : 50 अंक/Issue : 237

27-29/12/2025

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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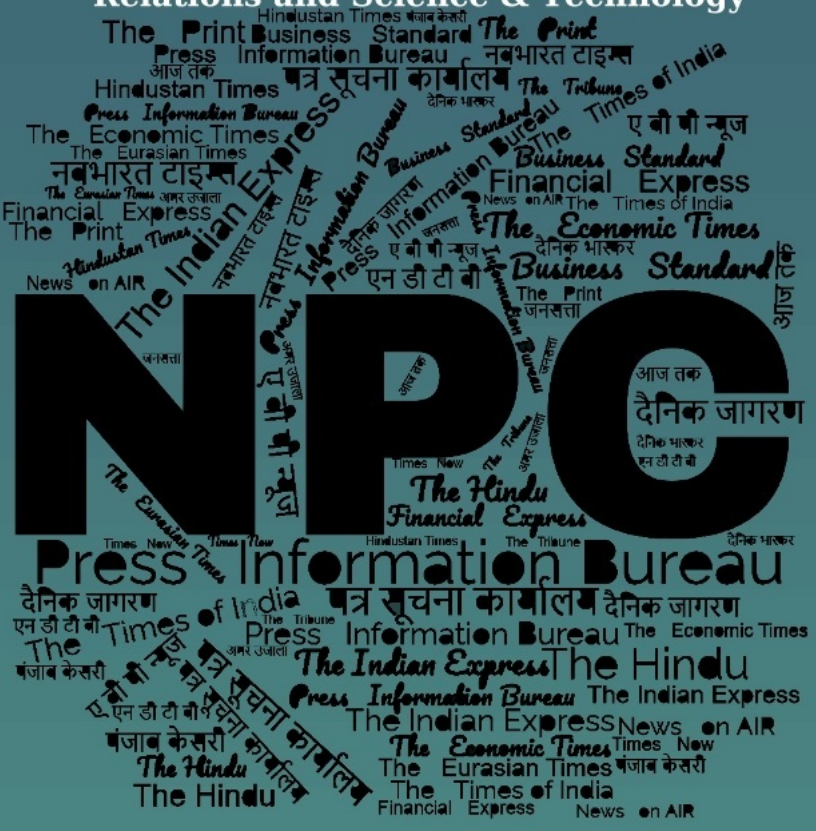

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DRDO News

Post-Operation Sindoor, DRDO transfers key camouflage, deception techs to Army for battle superiority

Source: The Times of India, Dt. 29 Dec 2025

According to Sun Tzu's 'The Art of War', "all warfare is based on deception."

In the wake of the Pakistan conflict in May when the enemy forces attempted to target Indian military assets like air defence systems, including Russia-imported S400 Triumf missile system, with their missiles and drones, India's elite R&D wing Defence Research and Development Organisation (DRDO) has transferred two key indigenous technologies to the Army that will help its soldiers and their military equipment evade enemy detection.

Defence Laboratory, Jodhpur(DLJ), DRDO handed over Camouflage Pattern Generation Software

Defence Laboratory, Jodhpur (DLJ), DRDO, handed over Camouflage Pattern Generation Software Sigma 4.0 (CPGSS4.0) and a full-scale Multispectral Signature Tank Mock-up to the Indian Army's Corps of Military Engineering (CME) in Pune in the first week of December.

"CPGSS4.0 was launched today (Dec 3) by Lt Gen A K Ramesh, SM, Comdt CME in the presence of V S Shenoi, Director, DLJ and will be available for use by tri-services," DRDO recently posted on X. "A full scale multispectral signature tank mock-up will be use (sic) for training the service personnel in camouflaging and deception technology," it stated.

CPGS 4.0 is an advanced software developed to create highly effective, multi-spectral camouflage patterns for military equipment, helping soldiers blend into diverse terrains by countering detection across visible light, infrared (IR), and radar sensors, thereby significantly boosting battlefield deception and survival training for the Indian Army.

Whereas a multispectral signature tank mock-up is a full-scale, realistic decoy of a battle tank, designed not just to look like a tank in visible light, but to mimic its physical and electromagnetic properties (heat, radar reflection) across various sensor spectrums, allowing soldiers to test and train with advanced camouflage materials to hide tanks from modern threats like thermal, infrared and radar detection.

Developing multispectral deception capabilities is the need of the hour as traditional camouflage measures have become less effective in modern warfare. These advanced systems are designed to enhance the Army's capabilities in camouflage and deception, which are key for survival on modern battlefields where surveillance and sensor technologies are fast advancing.

The integration of sophisticated software with a realistic mock-up helps tackle challenges posed by modern detection systems, including thermal imaging, UAV reconnaissance and radar technologies. With the introduction of these technologies, the Army now has the capacity to indulge in concealment methods more effectively, thereby enhancing operational survivability.

https://timesofindia.indiatimes.com/india/post-operation-sindoor-drdo-transfers-key-camouflage-deception-techs-to-army-for-battle-superiority/articleshow/126219991.cms

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Defence News

Op Sindoor lessons: From operations to plugging industry gaps & exposing Pakistan-based groups, India more

Source: The Economic Times, Dt. 29 Dec 2025

Operation Sindoor, the most definitive military strike on Pakistan in more than five decades to punish it for sponsoring terrorism, dominated India's security discourse in 2025 and laid down new red lines on how the country would respond to terrorist attacks on its soil. The hard lessons drawn from the circumstances that led to cross-border tensions — the state of preparedness in the run-up and the conduct of combat operations —are now set to shape national security choices in 2026. A look at the year gone by, and how it marked a significant shift in military thinking and preparedness for the future.

The Intent

The terrorist attack in Pahalgam on April 22 shocked not just India but the world with its brutality — at an idyllic holiday destination, men were rounded up and separated from their families, identified as Hindus and shot dead in front of their wives, children and mothers. The intent behind the massacre became clear almost immediately. In conversations with the victims' families, terrorists delivered a chilling message aimed squarely at India's political leadership, signalling that the scale and savagery of the assault were designed to provoke a forceful military response.

The larger game behind provoking such an attack, however, took longer to unravel. As things stand today, the Pakistan Army has emerged as the primary beneficiary of both the attack and India's response: its chief, Asim Munir, has elevated himself to the rank of Field Marshal, forced the political leadership to grant him the position for life, and now functions as Pakistan's de facto ruler. This is a world apart from where the Pakistan Army stood two years ago, when its public image was at its lowest, with unprecedented street protests targeting military installations after the arrest of former PM Imran Khan, including the burning of the Lahore Corps Commander's residence.

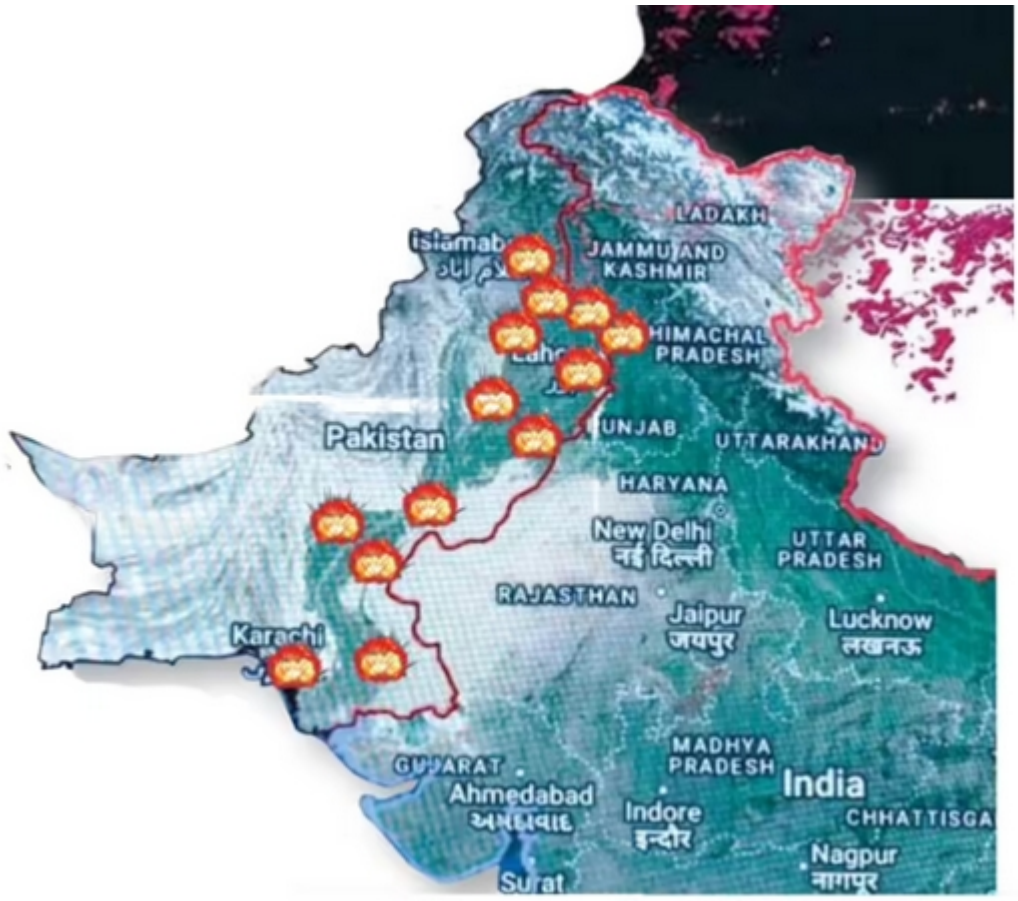
In terms of morale, too, 2023 marked a low point in over a decade, with a string of attacks and high-profile raids on Pakistan Army installations by Baloch separatists and Tehreek-e-Taliban

militants. Pakistani military casualties surged to levels not seen since 2014, underscoring just how fragile the army's grip had become before it sought to reclaim its centrality through a calibrated escalation and manufactured crisis.

Key Lessons

India's key lesson from the radical turnaround in Pakistan Army's fortunes is that the military ecosystem in the neighbouring country is willing to stake everything, including the risk of a full-blown war, when it senses its grip on the nation's pulse weakening. The more critical lesson, however, is that India can now call out Pakistan's nuclear bluff and execute punishing conventional strikes at the very heart of Rawalpindi's power centre. Yet, even after absorbing military punishment, the Pakistan Army will continue to claim victory before its domestic audience, masking losses and focusing more on the internal narrative.

For India, this combination of exposed nuclear bluff and predictable Pakistani narrative management creates a new strategic opportunity — the ability to carry out impactful, repeatable strikes against terrorist infrastructure anywhere on Pakistani soil. This erodes the protective cover Islamabad believed it had secured once it went openly nuclear in 1998.



The Operations

India's military campaign, which opened with precise strikes on terrorist infrastructure — including Lashkar-e-Taiba and Jaish-e-Mohammed headquarters — and then rapidly escalated to heavily defended targets such as air bases, radar sites and command-and-control centres, unfolded against the backdrop of unprecedented changes on the modern battlefield. The advent of low-cost unmanned systems, growing importance of information and cyber warfare, and the decisive role of electronic countermeasures in kinetic operations, have transformed how conventional forces fight, and the 2025 campaign became an early, live test of how India had been adapting to this shift.

From the moment political clearance was given on April 23 to the opening wave of strikes on May 7, armed forces maintained tight operational secrecy. Combat assets were quietly redeployed from the China front to the western theatre — including Rafale fighter jets, M777 ultralight howitzers, heavy armour and additional troops — without triggering the usual chatter that accompanies a visible build-up.

Internal social media monitoring cells worked overtime to ensure that no photographs or videos of these movements leaked into the public domain, while specialised soldiers and equipment were pulled in from across the country, including naval kamikaze drones repurposed for the land battle, under a single, tri-services plan.

What underpinned this effort was a clarity of political purpose: the engagement and destruction of terrorist targets and, if necessary, the neutralisation of those providing them protective cover. The outcome — the public and verifiable destruction of nine major terrorist camps, followed by a series of Pakistani military targets that were hit after they attempted to shield these organisations — demonstrated that Indian forces can strike well-defended targets deep inside Pakistan almost with impunity, even when the Pakistani military is on full alert.

Future Ready

While the operations were a clear military success — with several Pakistani military targets destroyed, airfields disabled, radar sites decommissioned and naval assets effectively bottled up — the value lies in the lessons learned that are already reshaping India's preparation for future conflicts. As things stand, India's conventional strength is sufficient to place its western neighbour under severe military pressure within days — any conflict will impose costs on India, but those costs remain within a politically and militarily bearable range.

Indian Air Force did not lose any combat personnel during the operation, even as there were multiple recorded casualties at Pakistani air bases. All Indian fighter losses occurred on the first day, during the opening strikes on terrorist targets, with each pilot ejecting safely and landing on home soil. These losses can be linked to intelligence gaps on two air defence systems deployed in Pakistan and on a Chinese origin networked kill-chain that was used operationally for the first time. Once understood, this architecture proved to be a one-trick pony, with countermeasures quickly incorporated into subsequent Indian strikes.

By the third day of the conflict, Indian forces had established near-complete dominance over Pakistani airspace, striking key airfields and disabling runways across the country. The cumulative on-ground damage — from hangars with airborne early warning aircraft, drones and fighters to hardened command-and-control centres and air-defence systems — effectively knocked the Pakistan Air Force out of the fight. Pakistan's post-conflict fixation on highlighting Indian fighter losses stems from this reality: the only "win" it can extract from a devastating exchange is that some Indian jets were shot down on the first day, while carefully omitting the facts that the primary mission of punitive cross-border strike was successful, there were no Indian combat fatalities and the subsequent three days showcased the Indian Air Force's complete domination of the aerial battlefield.

The campaign validated India's emphasis on long-range precision weapons such as BrahMos and SCALP, while demonstrating the payoff from investments in high-end air defence systems like S400. Over the coming year, more such systems are expected to be inducted, with a focus on accelerating indigenous programmes such as the Kusha long-range air defence system and home-grown medium-to-long range hypersonic missiles.

One of the most striking takeaways was the performance of drones and loitering munitions. A post-conflict review showed that a significant proportion of Indian loitering munitions and drones fell short of mission objectives due to heavy jamming and spoofing from across the border. Pakistan fared even worse: all of its drones, including Turkish-origin systems, were either jammed, spoofed away from military targets or shot down, underlining both the vulnerability of current-generation platforms and the growing sophistication of Indian electronic warfare

India compensated for these limitations through mass and firepower, employing large numbers of platforms alongside heavier munitions, including air-to-ground missiles and precision artillery. The lesson, however, is stark: low-cost unmanned systems must be upgraded and adapted quickly to survive in heavily contested electromagnetic environments.

Industry-military synergy

Aquiet but transformative feature of the operation was the presence of Indian defence industry representatives inside the loop. Several domestic firms supported the armed forces in real time from forward locations, pushing software patches, tweaking systems and incorporating battlefield feedback on the fly — a level of integration that has given them a head start in designing more resilient weapons and sensors for the next cycle of conflict. This synergy is the product of sustained, four-year-long effort by the defence ministry to change mindsets in both uniformed and industrial communities, moving from arm's length procurement to co-development and co-fighting models.

The armed forces have been equally quick to internalise the electronic warfare lessons. Recent trials for indigenous surveillance drones and loitering munitions have been conducted under intense jamming and spoofing conditions that mirror the Operation Sindoor environment, rather than in sanitised test ranges. There is a renewed focus on more robust counter-drone architectures — from swarm-defence solutions to directed-energy and laser-based systems — aimed at ensuring that the next round of conflict sees India not just coping with, but shaping, the drone and electronic warfare battle.

Perhaps the biggest real-world lesson on the industry front is the need for a swiftly scalable indigenous production base. Just over a week after the Pahalgam attack, and days before Operation Sindoor was launched, a hush-hush meeting was convened at the imposing

Manekshaw Centre in New Delhi to map the depth and resilience of India's defence industrial capacity. The brief was blunt: assess how far industry can support the armed forces in a short, limited conflict, in a drawn-out war and, in the worst case, a prolonged confrontation that would demand an all-of-nation effort.

The takeaways from that interaction are now being hardwired into the defence ministry's procurement and research and development strategy. In the past few weeks, several dozen contracts have been placed under emergency financial powers, alongside a determined push to create multiple, geographically dispersed production lines across different companies that can be activated for surge manufacturing, if required.

Focus 2026: Delivery

If 2025 was marked by radical reforms in procurement policy, new military-industry synergy and unprecedented operational flexibility granted to armed forces by the political leadership, 2026 will be watched closely for outcomes. At the centre of this scrutiny will be the ability of the industry to deliver on its promises — from on-time handover of weapon systems, especially emergency procurements cleared in the past few months, to research organisations fielding cutting-edge, on-the-fly solutions to emerging battlefield challenges, and the defence ministry's success in fostering genuine surge capacity into the industrial base.

One thing has been made clear: the government now intends to hold industry strictly accountable for what it commits. Delays and slip-ups will not be indulged as routine costs of doing business, and a few hard examples are likely in the coming months to signal that India's defence industry must either shape up and deliver, or risk being sidelined at a time when national security can least afford underperformance.

https://economictimes.indiatimes.com/news/defence/op-sindoor-lessons-from-operations-to-plugging-industry-gaps-exposing-pakistan-based-groups-india-more-prepared-now/articleshow/126218673.cms?from=mdr

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Lockheed Martin pitches C-130Js as 'best' choice for IAF's tactical airlift requirement, plans production hub in India

Source: The Tribune, Dt. 29 Dec 2025

As India prepares to procure up to 80 military transport planes, US aerospace major Lockheed Martin has pitched its C-130J Super Hercules as the best choice and said the aircraft will provide it a "stronger" heft for tactical airlift among the Quad nations. If Lockheed Martin gets the opportunity, then it will set up a mega hub in India to produce the "iconic" aircraft, and it will be the first such global facility outside of the US, top officials of the company told PTI.

To date, Lockheed Martin has delivered more than 560 aircraft from the C-130J Super Hercules family, which have accumulated more than three million flight hours. The leading tactical airlift has been serving 28 operators in 23 nations. The Indian Air Force (IAF) currently operates 12 C-130Js. Alongside the standard transport variant, Lockheed Martin offers multiple specialised configurations of the C-130J which enable the aircraft to perform intelligence, electronic warfare, and special forces support, search and rescue and command roles.

Besides India, the three other Quad member nations — the US, Australia and Japan — have been operating C-130Js. “The C-130J Super Hercules reflects proven performance and versatility across 20 unique mission sets. It holds 54 world records. Proven in every challenging operational environment, the C-130J’s structural durability is the standard for reliability, safety, and excellence,” said Patricia Trish Pagan, Vice President, Air Mobility and Maritime Missions at Lockheed Martin.

Pagan said Lockheed Martin is the preferred partner globally because the C-130Js are “built to deliver and built to last”, adding the aircraft will be the “best option for India”. In 2022, the IAF issued a Request for Information (RFI) to purchase medium transport aircraft (MTA) to replace its ageing fleet of Soviet-era AN-32 and IL-76 planes. The IAF plans to procure around 80 military transport aircraft, and the multi-billion-dollar procurement is likely to be cleared by the Defence Acquisition Council in the next few weeks.

Brazilian plane maker Embraer’s KC-390 Millennium aircraft and Airbus Defence and Space’s A-400M plane are also in the race for the MTA programme. The US defence major has partnered with Tata Advanced Systems to bid for the C-130J Super Hercules programme. Currently, Lockheed Martin is in the process of incorporating new innovations into the C-130Js, including the Distributed Aperture System (DAS) that is a key component onboard the F-35 Lightning combat jets.

The DAS is a spherical sensor suite with six infrared cameras providing rigorous situational awareness, missile warning and night vision for pilots. “We have a proven global track record, deep Indian collaboration experience, possess a robust supply-chain to include an extensive network of Indian suppliers, and the ability to set up a capability to benefit India, the globe and regional security,” Pagan said.

Roderick McLean, Vice President, Sustainment Operations at Lockheed Martin Aeronautics, said the MTA programme can impart a “new strategic value” to the India-US partnership as it will allow both sides to strengthen defence industrial base. McLean also asserted that there is no tactical airlift plane in history that matches the relevance and versatility of the C-130Js, as it has benefited from over 70 years of innovation and new features like artificial intelligence are being incorporated.

“We are doing a lot on connectivity to be able to connect systems from seabed up to space. We are looking at all of the connectivity systems that we have and how do we bring those systems into the C-130Js and how do we make them available to meet the needs of the IAF and others around the world,” he said. “The value the C-130Js provide is not only what it does today, but it is what it will be able to do in the future through continuous innovation and also allow the IAF to partner with Lockheed Martin to leverage the strength of the company,” he added. McLean said the MTA programme will be a very major opportunity for future growth of the C-130J fleet. “It represents the largest international opportunity for C-130s in its 70-year history.”

“Whether supporting NATO, the Quad, or any one of a network of 70 operators, the C-130 and Lockheed Martin have a history of sustained performance in the toughest and most extreme operational environments. With MTA selection, we are committed and prepared to boost India’s industrial ecosystem, while bringing other systems, programs and countries together, to deliver enhanced capability to the region, country, and the world,” he said.

Robert Toth, the vice president, business development, air mobility and maritime missions at Lockheed Martin Aeronautics, said the C130Js are a “symbol of hope” around the world and that it will be the right choice for India’s MTA programme. “Operated by India and 22 other nations, the C-

130J has logged over 3 million flight hours and proven its capability, versatility, and durability in the execution of 20 certified mission sets in the most challenging operational environments," he said.

"Every day, the IAF's C-130J aircrews, maintainers, and support personnel prove the C-130J is the right medium transport aircraft to deliver security to India from the sea to the world's highest airfield, Daulat Beg Oldie at 16,614 feet above sea level in the Himalayas," he said. Toth described as very significant Lockheed Martin's plan to establish the first major production hub outside of the Marietta facility in India for the aircraft. "India is the only place we're considering a C-130J co-production line outside the US. We would establish that second final assembly line in India to produce C-130Js for the IAF under the MTA programme while maintaining full-rate production in Marietta Georgia for other customers." "Out of the over 2,700 C-130s that have been built, only the first two prototype airplanes were built outside of Marietta. They were built in Burbank, California," he said.

Toth said the proposed hub for manufacturing of the aircraft will also open doors for its possible exports to various other markets. "With the selection of the Lockheed Martin C-130J, India will not only receive the most capable medium transport aircraft ever built, but India will also have a partner in Lockheed Martin with a deep understanding of the IAF's mission and ready to deliver tailored solutions that address current and future challenges." Toth argued that India procuring an additional fleet of C-130J Super Hercules will provide it an edge in the Quad, adding the aircraft has been a "centrepiece" for the air forces of the grouping's member nations.

Australia is in the process of currently replacing their original fleet of C-130Js with brand new C-130Js. Japan is also planning to do the same. "The US inventory of C-130Js continues to grow. And we believe that India possessing more C-130Js through the India MTA programme gives it a stronger position for airlift within the Quad," Toth said. He also said that Lockheed Martin will be able to deliver the planes to India much faster than any of its competitors.

"We are building between 20 and 24 airplanes a year here in Marietta. Recently, we produced as many as 36 airplanes a year here. And in some years we've produced even more than that." Toth said the company has the ability to increase the production rate to meet any global demand. "I believe we can meet the demand for India's initial airplanes faster than any of our competitors because of the production line we have out here today," he said.

"I think we have the surge capacity to produce additional airplanes for India, and the production line that's going to be established in India produces surge capacity," he said. Lockheed Martin and Tata Advanced Systems have been jointly manufacturing C-130J empennages and other aerostructure assemblies in India for the last several years.

Produced at Tata Lockheed Martin Aerostructures Limited (TLMAL) in Hyderabad, the C-130J tail or empennage is shipped to the US for integration into C-130J aircraft built in Marietta. Recently, Tata Lockheed Martin Aerostructures Limited (TLMAL) celebrated the delivery of its 250th C-130J tail. The defence MRO facility will join the existing global network of Lockheed Martin Certified Service Centers and will be strategically located to service the C-130J Super Hercules, KC-130J and C-130 B-H legacy aircraft in the future.

https://www.tribuneindia.com/news/india/lockheed-martin-pitches-c-130js-as-best-choice-for-iafs-tactical-airlift-requirement-plans-production-hub-in-india/

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Electrical islanding project kicks off for Jabalpur defence units

Source: The Times of India, Dt. 27 Dec 2025

An electrical islanding project has been designed for the defence hub in Jabalpur, Madhya Pradesh, that will not allow any tech glitch, or even an attack during war, to impact defence production units and emergency services in the city. The project is expected to be completed by March 2026.

The project, approved in May this year during Operation Sindoor, ensure that defence establishments, hospitals and traffic signals remain powered by a local thermal power station unit and dedicated lines even if the grid is attacked.

While several major cities already use electrical islanding, Jabalpur will be the first city in Madhya Pradesh to adopt it. Proposals for Bhopal and Indore are awaiting approval from the authorities.

Managing director of MP Power Transmission Company Limited Sunil Tiwari told TOI, "We received the approval for Jabalpur in May. Under it, 90% of the cost is borne by the central govt. We initiated the work."

"The last nationwide grid collapse took place in July 2012 due to technical issues. In such scenarios, everything collapses — all thermal power stations shut down — and if electrical islanding is implemented, transmission from the grid is disconnected and energy for essential services is provided through a local power source using dedicated lines," Tiwari said.

https://timesofindia.indiatimes.com/city/bhopal/electrical-islanding-project-kicks-off-for-jabalpur-defence-units-emergency-services/articleshow/126195160.cms

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Science & Technology News

Just five DNA letters flip chromatin from fluid to solid-like state

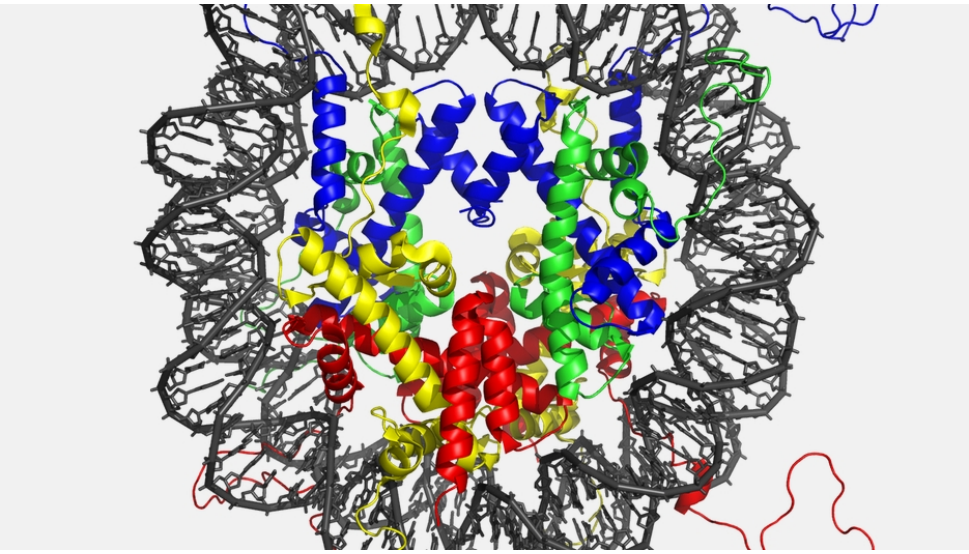
Source: The Hindu, Dt. 28 Dec 2025

DNA inside human cells is not free-floating. Instead, it is tightly wrapped around small protein units forming a long chain, with DNA looping around each unit before moving on to the next. This DNA-protein complex is called chromatin and allows nearly 2 m of genetic material to fit inside a nucleus only a few micrometres wide.

However, chromatin does more than pack DNA efficiently: its arrangement influences which genes are accessible and which remain shut down. Some regions are loosely organised, allowing the cell to read genetic instructions, while others are dense and harder to access. How cells control these physical states has been a central question in molecular biology.

A new study in Science has now reported that a surprisingly small structural detail, the spacing between neighbouring DNA-protein units, can influence how chromatin behaves. That’s because

DNA isn't straight, UT Southwestern Medical Centre biochemistry professor and the study's senior author Michael Rosen explained. It is twisted, so even small spacing changes can shift how protein beads sit along the DNA, reshaping the entire strand.



The crystal structure of the nucleosome core particle. The view is from the top through the superhelical axis.

These bead-like proteins, called histones, are connected by short stretches of exposed DNA. In living cells, the length of this linker DNA varies naturally across the genome, differing by only a few DNA building blocks.

Because changes in orientation propagate along the chromatin fibre, Prof. Rosen added, they alter the shape of the entire molecule and how it interacts with nearby strands. These interaction differences, rather than changes in DNA sequence or protein composition, cause chromatin made from identical components to behave in very different ways.

To investigate this, the researchers built chromatin in the laboratory using identical DNA and proteins, altering only the length of the linker DNA. They compared chromatin with shorter linkers to chromatin with slightly longer ones (differing by just five DNA base pairs).

The team used rapid freezing and high-resolution imaging. Individual nucleosomes — the building blocks of chromatin — are large enough to be captured directly, allowing researchers to visualise most molecules inside the clusters. They tracked how the clusters formed, merged, moved, and broke apart.

The results revealed a clear divide. Chromatin with shorter DNA linkers remained more open along its length, positioning its units to reach outward and interact with neighbouring strands, like loosely laid yarn that easily tangles. These clusters were densely connected and mechanically resistant, fusing slowly and proving difficult to break apart.

Chromatin with longer linkers folded inward on the other hand, with units interacting more within the same strand. This reduced connections between neighbouring strands, producing clusters that were less stable, more fluid, and easier to dissolve.

"Those different interaction patterns are what make one system behave like a simple liquid and the other behave more like silly putty or toothpaste," Prof. Rosen said. National Institutes of Health biochemist Yamini Dalal said the study reinforces and unifies long-standing, disparate ideas using powerful interdisciplinary techniques. Chromatin has long been understood as a self-organising structure, she said, with nucleosome spacing strongly influencing how it folds.

“The genome’s organisation is encoded in the chromatin itself. You don’t need additional instructions to make structure emerge.” When the researchers examined human and mouse cells, they found dense chromatin regions with packing patterns similar to those seen in laboratory experiments. Prof. Rosen suggested this shows that the same physical rules apply inside the nucleus as in the test tube, although whether cells actively use this feature to regulate chromatin function remains an open question.

Dr. Dalal agreed that the physics demonstrated is biologically realistic but cautioned against assuming that cells fine-tune this spacing everywhere. Maintaining exact five-base-pair differences across a dynamic chromatin would be difficult, she said. Such effects may matter most in highly ordered genomic regions, such as repetitive DNA, where even small disruptions could alter how easily regulatory molecules move through and access DNA.

Disorder in chromatin’s repetitive DNA stretches is already linked to genome instability in cancer and ageing. Dr. Dalal viewed the findings as a physical blueprint for understanding these fragilities.

From a gene function standpoint as well, the study is provocative. Sarah Teichmann, Cambridge University professor and co-founder of the international Human Cell Atlas project, said the results raise the possibility that chromatin’s physical state could influence how genes are regulated across different cell types. Large efforts such as the Human Cell Atlas, which map molecular differences between cells, could eventually test whether such physical chromatin states vary with cell identity, she said.

https://www.thehindu.com/sci-tech/science/just-five-dna-letters-flip-chromatin-from-fluid-to-solid-like-state/article70432658.ece

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ISRO aims to commission third launch pad at Shriharikota in 4 years, says top scientist

Source: The Tribune, Dt. 29 Dec 2025

ISRO is in the process of developing a third launch pad at the Shriharikota spaceport and is currently identifying the right vendors for it, a top scientist said. Shriharikota complex, which covers an area of 175 sq km, is located about 135 km east of Chennai. It has been serving the Bengaluru-headquartered space agency for the launch of various satellites using different launch vehicles.

To move ahead with its plan of placing bigger satellites weighing over 12,000-14,000 kg in various orbits in space, ISRO requires bigger launch vehicles, Padmakumar ES, the Director and Distinguished Scientist of Satish Dhawan Space Centre, Shriharikota, said. To serve this purpose, ISRO is planning a third launch pad, he said.

“We plan to develop, install and commission a third launch pad in four years. Activities are going on for that,” he told PTI in a recent interaction. “We are starting the procurement phase and identifying the right vendors to deliver us the support that is needed for the mega project,” he said.

Responding to a query, Padmakumar said once the third launch pad comes into operation, it would be utilised for launching over 14,000 kg satellites that will be carried by Next Generation Launch Vehicles (NGLV). ISRO on December 24 successfully placed the US-based satellite, Bluebird Block-2, weighing about 6,000 kg, onboard a LVM3-M6 rocket into the Low Earth Orbit, making the space agency launch such a heavy satellite from Indian soil for the first time.

Padmakumar explained that the third launch pad is required for the next series of launch vehicles. “The third launch pad will be used for both crewed and uncrewed missions while the first and second launch pads are used for PSLVs and GSLV missions,” he said. To a query about the ISRO launch complex currently under construction in Kulasekarapattinam in Tamil Nadu’s Tuticorin district, he said the facility would be used to launch Small Satellite Launch Vehicles (SSLVs), which can place satellites into the Low Earth Orbit.

“These satellites may weigh about 500 kg and can be placed in LEO. For such missions, we will be using that (Kulasekarapattinam) facility,” he said. The ISRO currently uses three launch vehicles—the Polar Satellite Launch Vehicle (PSLV), Geosynchronous Satellite Launch Vehicle (GSLV) and Launch Vehicle Mark 3 (LVM3) or as previously called, Geosynchronous Satellite Launch Vehicle Mk-III.

According to ISRO, the spaceport was renamed as Satish Dhawan Space Centre (SDSC) on September 5, 2002 in fond memory of former Chairman of ISRO, Professor Satish Dhawan. The spaceport started its operation in October 1971 with the launch of the sounding rocket ‘Rohini-125’. Since then, the facilities here have been gradually expanded to meet the growing needs of the space agency.

https://www.tribuneindia.com/news/india/isro-aims-to-commission-third-launch-pad-at-shriharikota-in-4-years-says-top-scientist/

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The Tribune
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पंजाब केसरी जनसत्ता
The Hindu
The Economic Times
Press Information Bureau
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