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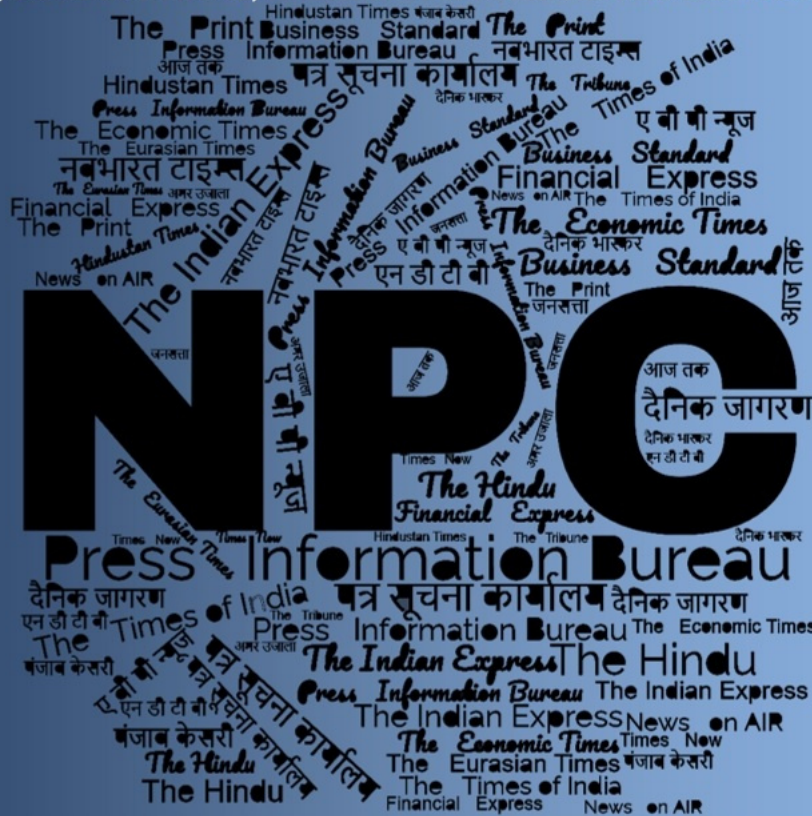
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# समाचार पत्रों से चयनित अंश Newspapers Clippings

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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# Defence News

## Indian Air Force conducts full dress rehearsal of exercise 'Vayu Shakti'

Source: *The Indian Express*, Dt. 25 Feb 2026



IAF's heavy-lift Chinook helicopter during Exercise Vayu Shakti-26, at Chandan Field Firing Range, in Jaisalmer on Tuesday. PTI

THE INDIAN Air Force on Tuesday conducted a full dress rehearsal of Exercise 'Vayu Shakti', a firepower demonstration, at the Pokhran Field Firing Range in the Thar desert of western Rajasthan. The rehearsal, which showcased coordinated day-to-dusk-to-night operations, was conducted ahead of the main event scheduled for February 27. Fighter jets, transport aircraft and helicopters carried out simulated strikes on designated targets in a near-realistic combat scenario. However, Tejas fighter jet did not take part in the rehearsal following reports of technical issue. Sukhoi-30 MKI aircraft targeted enemy runways and positions, while MiG-29 jets struck a simulated convoy of tanks. PTI

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## भारतीय सेना ने परखी इंटीग्रेटेड कॉम्बैट पावर

Source: NavBharat Times, Dt. 25 Feb 2026

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■ नई दिल्ली : भारतीय सेना की सदरन कमांड ने रेगिस्तानी इलाके में अपनी इंटीग्रेटेड कॉम्बैट पावर (युद्ध क्षमता) को परखा। सैनिकों ने पोखरण फील्ड फायरिंग रेंज में 'एक्सरसाइज अग्नि वर्षा' की। अपनी तैयारी को परखा और 25 अलग अलग देशों के पत्रकारों के जरिए दुनिया को भी अपनी ताकत दिखाई। इस एक्सरसाइज में सैनिकों ने रेगिस्तान में अपनी ऑपरेशनल तैयारी और संयुक्त युद्ध कौशल को दिखाया। वास्तविक युद्ध जैसे माहौल में विभिन्न वेपन सिस्टम का इस्तेमाल किया गया और सटीक लंबी दूरी की मारक क्षमता और नेटवर्क आधारित कमांड और कंट्रोल सिस्टम की प्रभावशीलता को भी परखा गया। इस इंटीग्रेटेड फायर और मैनुवर एक्सरसाइज में अलग-अलग डोमेन में ऑपरेट कर रही मैकेनाइज्ड फोर्स की युद्ध क्षमता को दिखाया गया। पहली बार 25 देशों के पत्रकारों की मौजूदगी में इस तरह की एक्सरसाइज की गई है। भारतीय सेना ने दुनिया को थार के रेगिस्तान में अपनी स्पीड, सटीकता और कॉर्डिनेशन को भी दिखाया। आधुनिक युद्धक्षेत्र की कई नई तकनीकों का इस्तेमाल किया गया। इसमें ड्रोन, एंटी-ड्रोन तरीके, सटीक निशाना लगाने वाले रॉकेट सिस्टम, आधुनिक तोपखाना प्लेटफॉर्म और नेटवर्क से जुड़ी



### वायुशक्ति की रिहर्सल में नहीं उड़ा तेजस

इंडियन एयरफोर्स 27 फरवरी को राजस्थान के जैसलमेर में वायुशक्ति एक्सरसाइज करेगा। मंगलवार को इसकी फुल ड्रेस रिहर्सल हुई। इसमें फाइटर जेट तेजस को भी शामिल होना था, लेकिन फुल ड्रेस रिहर्सल में तेजस नहीं उड़ा। दरअसल, हिंदुस्तान एरोनॉटिक्स लि. पूरे तेजस बेड़े की विस्तृत मेंटेनेंस जांच कर रहे हैं। इस महीने की शुरुआत में एक तेजस में तकनीकी दिक्कत आई थी।

निगरानी सिस्टम शामिल थे। इंटीग्रेटेड मैनुवर फोर्स में T-90 मेन बेटल टैंक, इन्फेन्ट्री कॉम्बेट व्हीकल, K-9 वज्रा सेल्फ प्रोपेल्ड होवित्जर, सारंग और बोफोर्स तोप प्रणाली, रॉकेट प्लैटफॉर्म, स्वदेशी अडवांस्ड लाइट हेलिकॉप्टर, अपाचे और निगरानी और हमले वाले कई तरह के ड्रोन शामिल थे।

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## PM Modi to begin Israel visit today. Defence, security, trade ties on agenda

Source: Hindustan Times, Dt. 25 Feb 2026

Prime Minister Narendra Modi will on Wednesday leave for Israel on a two-day state visit focused on advancing bilateral cooperation in a raft of areas including defence and security, science and technology, innovation, agriculture, water management, trade and economy, and people-to-people exchanges, the ministry of external affairs said on Tuesday. This will be the PM's second visit to that country in nine years; the bilateral relationship was elevated to "strategic partnership" when Modi visited Tel Aviv in July 2017. Modi will address Israel's parliament, the Knesset, on Wednesday and hold delegation-level talks with his counterpart Benjamin Netanyahu the following day.

"The two leaders will review the significant progress made in India-Israel Strategic Partnership, and discuss further opportunities in various areas of cooperation...The leaders are also expected to exchange perspectives on regional and global issues of mutual interest," MEA said in a

statement. The PM will also call on Israeli President Isaac Herzog. The visit will reaffirm the deep and long-standing strategic partnership between the two countries and will present an opportunity to review common challenges as well as realign efforts toward achieving their shared vision for a robust partnership between two resilient democracies, the MEA added. Both countries are expected to sign several memoranda of understanding, including on security cooperation, though there is no indication of any defence deal being signed during the current visit. The visit comes at a time when Israel has agreed to share the latest defence technologies with India. Last November, India and Israel signed an MoU to deepen military ties, during the 17th meeting of the joint working group on defence cooperation co-chaired by defence secretary Rajesh Kumar Singh and Director General of Israeli Ministry of Defence Major General Amir Baram.

The MoU was signed in Tel Aviv to provide a unified vision and policy direction to deepen the already strong defence cooperation between the two countries. It will enable the sharing of advanced technology and promote the co-development and co-production of weapons and systems. The MoU identified several areas for cooperation, including defence industrial cooperation, science and technology, R&D and technological innovation, AI and cyber security cooperation. Several weapons of Israeli origin were used during Operation Sindoor, India's four-day military confrontation with Pakistan in May 2025, including missiles, bombs and loitering munitions, and steps have been taken to replenish their stocks. India last week said that it had joined more than 100 countries and international organisations in a statement condemning Israel's moves to expand unlawful settlements in the West Bank, as this is in line with New Delhi's long-standing position of backing a two-state solution and the rights of the Palestinian people.

<https://www.hindustantimes.com/india-news/defence-security-science-on-top-of-pm-s-israel-agenda-101771962592592.html>

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## हिमाचल की पहाड़ियों में भारत और अमेरिका ने दिखाया सैन्य पराक्रम

*Source: Dainik Jagran, Dt. 25 Feb 2026*

जागरण संवाददाता, चंबा : हिमाचल प्रदेश के चंबा जिले के बकलोह में मंगलवार से भारत और अमेरिका की सेनाओं का तीन सप्ताह का संयुक्त सैन्य अभ्यास आरंभ हो गया। इस दौरान दोनों देशों की सेनाओं ने सैन्य पराक्रम दिखाया। भारतीय सेना के अधिकारियों ने कहा कि 'वज्र प्रहार' के 16वें संस्करण का उद्देश्य पहाड़ी और दुर्गम क्षेत्रों में संयुक्त विशेष अभियान चलाने की क्षमता को मजबूत करना तथा तालमेल को और बेहतर बनाना है।

अभ्यास में दोनों देशों के विशेष बल भाग ले रहे हैं। प्रशिक्षण का केंद्र बिंदु कठिन भौगोलिक परिस्थितियों में संयुक्त अभियान की योजना बनाना। उसे प्रभावी ढंग से

लागू करना और सामरिक कौशल को निखारना है। सैनिकों को उच्च स्तर की शारीरिक तैयारी, सटीक लक्ष्य निर्धारण और समन्वित कार्रवाई का अभ्यास कराया जाएगा। अभ्यास के दौरान विशेष बल एक-दूसरे के अनुभवों से सीखेंगे। संयुक्त अभियान की योजना बनाने, आकस्मिक परिस्थितियों से निपटने, पहाड़ी इलाकों में गश्त और त्वरित कार्रवाई जैसे पहलुओं पर विशेष प्रशिक्षण दिया जाएगा। सेना का मानना है कि इस तरह के अभ्यास से आपसी विश्वास बढ़ता है। चंबा का यह क्षेत्र पहाड़ी भूभाग और विविध भौगोलिक परिस्थितियों के कारण विशेष अभियानों के अभ्यास के लिए उपयुक्त है।

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## IISS: Op Sindoor may be the longest beyond-visual-range air battle

Source: Hindustan Times, Dt. 25 Feb 2026

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**LONDON:** The International Institute for Strategic Studies (IISS), a leading London-based authority on military, political and security matters, thinks the India-Pakistan military stand-off in May last year, Operation Sindoor as it is known in India, "may have been the world's longest beyond-visual-range (BVR) air-to-air engagement to date". BVR refers to the use of aircraft to launch rockets or missiles targetting flying objects far away, usually invisible to the naked eye.

The statement is from IISS's Military Balance 2026 report, a voluminous annual publication, which was released on February 24. This also presented analysis claiming that the Indian Air Force may have lost a Rafale combat aircraft on May 7, 2024 in Operation Sindoor. "Open-source imagery has verified the loss of one Rafale EH (enhanced with advanced electronics)," it said. To be sure, India has never directly addressed queries on the loss of a Rafale during Operation Sindoor, insisting that all objectives of the operation were met.

"What exactly occurred during the engagement is still uncertain. It is unclear which BVR missiles the Rafales were equipped with (the MBDA Mica or the Meteor), if Indian aircraft engaged Pakistani aircraft, and if

### IISS'S REVIEW ALSO CONFIRMED INDIA CONDUCTED "STRIKES AGAINST NINE ALLEGED TERRORIST BASES IN AZAD JAMMU & KASHMIR, AND IN PAKISTANI PUNJAB"

their rules of engagement even permitted Indian aircraft to engage," it said, offering theories on the alleged loss of an aircraft.

"Reports also vary on what may have caused known Indian aircraft losses. The recovery of wreckage of a China Airborne Missile Academy PL-15E (CH-AA-12 Abaddon) suggests that this long-range missile may have contributed to the losses. The Aviation Industry Corporation of China's official range for the PL-15E stands at 145 kilometres," it added.

IISS's review also confirmed Indian planes conducted "strikes against nine alleged terrorist bases or camps in Azad Jammu and Kashmir, as well as in Pakistani Punjab". It added: "Although reports vary on which aircraft and weapons India employed, India said it used MBDA SCALP-EG land-attack cruise missiles and Safran AASM Hammer 250 guided bombs launched from Dassault Rafale DH/EH aircraft (the DH is a twin-

seater) to target these sites".

"In response, Pakistan (with Operation Bunyan-un-Marsoos) scrambled its combat aircraft – likely the Chengdu J-10CE Firebrand and CAC/PAC JF-17 Thunder Block III," the review said.

"But... neither country's combat aircraft went beyond its own airspace," it concluded. The report also observed that the Indo-Pak conflict "provided a real-world test of Chinese military technology".

After the operation, it noted, "India continued to expand its capabilities, modernise its forces and strengthen its domestic defence-industrial base... aimed at developing an integrated air-and-missile defence system by 2035, covering both strategic and civilian areas. The country adopted a new Maritime Doctrine for the first time in a decade, as well as a Joint Doctrine on Special Forces".

At the same time it commented, "India's armed forces remain primarily oriented towards territorial disputes with Pakistan. The country also has long-standing territorial disputes with China and is pivoting towards security concerns posed by Beijing in the Indian Ocean... India continues to develop its nuclear capabilities, and in 2024 tested its Agni-V IRBM (intermediate range ballistic missile), employing MIRVs (multiple independently targetable re-entry vehicles)."

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## India-US joint special forces exercise Vajra Prahar to be conducted in Himachal Pradesh

Source: Press Information Bureau, Dt. 24 Feb 2026

The US Army contingent has arrived in India to participate in the 16th edition of the India-US Joint Special Forces Exercise VAJRA PRAHAR, scheduled to be conducted at the Special Forces Training School, Bakloh, Himachal Pradesh, from 24 February to 16 March 2026. The previous edition of the exercise was held at the Orchard Combat Training Centre in Idaho, USA in

November 2024. The Indian Army contingent, represented by Special Forces units, comprises 45 personnel, while the United States will be represented by 12 personnel from the Green Berets of the US Special Forces.

The aim of Exercise VAJRA PRAHAR is to promote military cooperation between India and the United States through enhanced interoperability, jointness and mutual exchange of special operations tactics. The exercise is designed to strengthen combined capabilities for conducting joint Special Forces operations in mountainous terrain.

The training will focus on a high degree of physical conditioning, joint mission planning and the execution of joint tactical drills. Participating troops will share best practices and operational experiences in areas such as joint mission planning and special operations tactics, techniques and procedures. The exercise is expected to further deepen interoperability, mutual trust and professional camaraderie between the Special Forces of both nations, reinforcing the growing defence partnership between India and the United States.

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2232288&reg=3&lang=1>

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## India-Japan joint exercise 'Dharma Guardian' commences in Chaubattia, Uttarakhand

*Source: Press Information Bureau, Dt. 24 Feb 2026*

The 7th edition of the annual Joint Military Exercise 'DHARMA GUARDIAN' between the Indian Army and the Japan Ground Self-Defense Force (JGSDF) commenced today at the Foreign Training Node, Chaubattia in Uttarakhand. The exercise will be conducted from 24 February to 9 March 2026. This edition brings together a 120-member contingent from each side, with the JGSDF represented by troops from the 32nd Infantry Regiment and the Indian Army contingent drawn from the Ladakh Scouts. The exercise is held alternately in India and Japan and remains a key pillar of defence cooperation between the two nations.



The aim of Exercise 'DHARMA GUARDIAN' is to strengthen military collaboration and enhance combined capabilities to undertake joint operations in a semi-urban environment. Over the next two weeks, participating troops will focus on achieving high levels of physical fitness, refining joint planning processes and synchronising tactical drills. The Joint Exercise is anchored in employment of modern technology, enhancing interoperability and contemporary operational aspects.

Key tactical activities during the exercise include:

- Establishing a Temporary Operating Base
- Developing an Intelligence, Surveillance and Reconnaissance (ISR) grid
- Setting up Mobile Vehicle Check Posts
- Conducting Cordon and Search Operations in hostile environment
- Executing Heliborne Operations
- Undertaking House Intervention Drills

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2232191&reg=3&lang=1>

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## Science & Technology News

**To mark the 40th Foundation Day of Department of Biotechnology, Union Minister Dr Jitendra Singh launches “SUJVIKA” AI driven Biotech Product Data Portal, developed in collaboration with Industry partners ABLE**

*Source: Press Information Bureau, Dt. 24 Feb 2026*

To mark the 40th Foundation Day of the Department of Biotechnology (DBT) today, Union Minister of State (Independent Charge) for Science & Technology, Earth Sciences; and MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr Jitendra Singh launched “SUJVIKA” AI driven Biotech Product Data Portal, developed in collaboration with Industry partners ABLE.

SUJVIKA is a Trade Statistics Digital Intelligence Platform that presents authenticated biotechnology product import data in a structured and accessible format. The portal provides sector-wise insights into biochemical products, industrial enzymes, and other biotechnology imports. It enables researchers, startups, and industry to identify high-value and high-volume imports, assess import dependency and prioritise indigenisation and R&D efforts. The portal also supports evidence-based planning and promotes public-private partnerships for strengthening domestic biomanufacturing.

Addressing the gathering, the Minister said, the next industrial revolution will be biotechnology-driven and India is steadily moving towards building a \$1 trillion bioeconomy by 2047 under the vision of Viksit Bharat. He said India has ensured that it will not remain a late entrant in emerging technologies and has positioned biotechnology as a key driver of future economic growth.

Dr Jitendra Singh was addressing the 40th Foundation Day celebrations of the Department of Biotechnology (DBT) at the Civil Services Officers Institute (CSOI), Chanakyapuri, New Delhi. The programme was attended by Dr Rajesh S. Gokhale, Secretary, DBT; Ms Ekta Vishnoi, Joint Secretary, DBT; senior officials of DBT, BIRAC and BRIC; members of the scientific community; directors of institutions; industry representatives; and young researchers. The event featured pitch presentations by young scientists and DBT Directorates, a presentation on DBT's 40-year journey, and the launch of the revamped DBT website and the "SUJVIKA" Bio Product Web Portal.

Congratulating the DBT fraternity on completing four decades since its establishment in 1986, Dr Jitendra Singh said the Department has grown into a premier organisation nurturing startups, strengthening academia–industry partnerships, building scientific infrastructure and enabling innovation for societal use. He said that while India had fewer than 100 biotech startups in 2014, the number has now crossed 11,000, reflecting a strong expansion of the ecosystem. During this period, India's bioeconomy has grown from nearly USD 10 billion in 2014 to about USD 165.7 billion in 2024. The country is now ranked among the top biotech destinations globally and stands as one of the leading vaccine manufacturers in the world.

Referring to policy reforms, the Minister said that under the leadership of Prime Minister Shri Narendra Modi, biotechnology has emerged as a central pillar of India's development strategy. He recalled that the Union Cabinet approved the integrated BioE3 Policy- Biotechnology for Economy, Environment and Employment, aimed at fostering high-performance biomanufacturing across the country. He said DBT, BIRAC and the Biotechnology Research and Innovation Council (BRIC) are implementing this policy to strengthen indigenous capabilities and expand India's bioindustrial base.

Dr Jitendra Singh spoke about the establishment of the National Biofoundry Network comprising six specialised biofoundries and 21 advanced bio-enabler facilities across the country to accelerate scale-up and commercialisation. He also referred to the network of 95 bio-incubators across 21 States and UTs, four regional mentoring centres and technology transfer offices that are supporting more than 1,800 incubatees. He said the recently announced first national call of ₹2,000 crore under the ₹1 lakh crore Research, Development and Innovation (RDI) initiative will further strengthen the biotech sector and support enterprises ready for large-scale growth.

Highlighting emerging frontiers, the Minister said India has entered new domains such as space biotechnology and space medicine through an MoU between DBT and ISRO/Department of Space. He referred to biotechnology experiments conducted in space missions, including studies related to life sciences and muscle physiology, and said such initiatives place India at the forefront of cutting-edge scientific exploration.

Dr Jitendra Singh also mentioned the GenomIndia Project, under which whole genome sequencing data of 10,000 individuals from 99 diverse populations has been made available through the Indian Biological Data Centre. He said this will enable future development of personalised therapies and strengthen India's genomic research capabilities. He further referred to India's first human gene therapy trial for Severe Hemophilia A, supported through DBT and BIRAC, which achieved sustained Factor VIII production and reduced dependence on repeated infusions.

The Minister said biotechnology's integration with digital tools, including artificial intelligence, will significantly enhance research efficiency, reduce timelines, and improve precision in areas such as gene sequencing, diagnostics, and drug discovery. He emphasised the importance of greater synergy among scientific departments to fully harness the potential of biotechnology. On the occasion, Dr Jitendra Singh launched DBT's revamped website aligned with the Government of

India's Digital Brand Identity Manual (DBIM) framework designed by MeitY/NIC, marking a step towards a unified and standardised digital presence across Ministries and Departments.

Earlier, Secretary DBT Dr Rajesh S. Gokhale described DBT as a driver of transformative change and outlined its evolution from building scientific capacity to fostering entrepreneurship and advancing the bioeconomy. He explained the Department's integrated approach spanning knowledge creation, translation through startups and partnerships, and societal impact. He highlighted recent progress in genome editing and high-performance biomanufacturing, and said that the BioE3 framework integrates biological systems, digital intelligence, and socio-economic design to create sustainable growth models.

Concluding his address, Dr Jitendra Singh expressed confidence that DBT, BIRAC and BRIC will together drive India's bio revolution from laboratory research to large-scale industrial application, contributing to sustainable development and positioning India among the leading bio economies of the world. The programme was attended, among others, by Ekta Vishnoi, Joint Secretary, DBT; senior officials of DBT, BIRAC and BRIC; members of the scientific community; directors of institutions; industry representatives; and young researchers. The event featured pitch presentations by young scientists and DBT Directorates, a presentation on DBT's 40-year journey.

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=2232332&reg=3&lang=1>

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## Simple tweak, brings big leap for electro-optics

*Source: Press Information Bureau, Dt. 24 Feb 2026*

A novel nano soft gold–liquid crystal hybrid material that is stable to high temperature fluctuations and has increased optical features can facilitate next generation optical technologies, energy-efficient electronics and advanced sensors. Nano–soft hybrid materials mark an exciting frontier in materials science—where the precision of nanotechnology meets the versatility of soft matter. These materials have a significant demand in cutting-edge electro-optical materials.

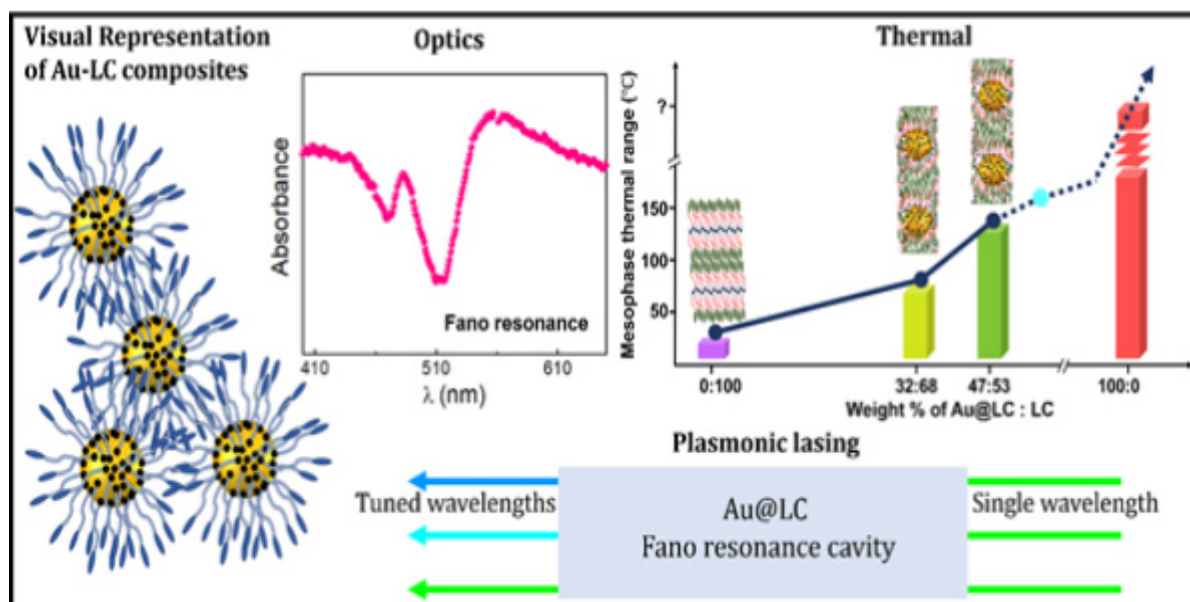
A group of researchers from the Centre for Nano and Soft Matter Sciences (CeNS), Bengaluru, an autonomous institute of the Department of Science and Technology (DST), led by senior scientist Dr. B.L.V. Prasad and Ph.D. scholar Muskan Duggal with key contributions from Dr. S. Krishna Prasad, Dr. D. S. Shankar Rao, Dr. C.V. Yelamaggad, and Dr. Santosh Khatavi have used molecular engineering and minimal processing to bring about dramatic structural and functional transformations resulting in an gold liquid crystal (Au-LC) composite with high thermal stability and enhanced optical features.

Through molecular engineering and minimal processing, researchers brought about significant structural and functional transformations leading to extraordinary performance in the new material. The work involved the synthesis of a molecule called an amine-functionalized liquid crystal (LC), that acted as a reducing agent, triggering formation of gold nanoparticles and also stabilized them in situ, obviating the need for additional reagents.

This smart molecular choice streamlined the synthesis and unlocked significant control over hybrid structure, demonstrating how simple ligand engineering can lead to versatile results in material design. The innovative design drastically enhanced thermal stability ranges from 27 °C for pure LC to 145 °C for the hybrid material (Au-LC composite), and unprecedented optical properties such as

emergence of a rare and intriguing optical effect called Fano-like resonance that holds tremendous potential in advanced light-based technologies.

It is used in plasmonic lasers (spasers), which are extremely small yet powerful light sources, in ultra-sensitive sensors that can detect tiny amounts of chemicals, pollutants, or biological markers and in specially engineered materials that guide light in precise ways. This helps create high-performance filters and even invisibility cloaks. These breakthroughs are shaping future of optics, nano-photonics, and biomedical imaging.



*Fig: Visual representation of AU-LC composites*

The distinctive optical behavior that emerged from simple nano-soft hybrid material prepared by CeNS researchers suggests that we may now have a more accessible and efficient route to achieving effects that once required intricate and expensive systems. The findings by the team published in ACS Applied Nano Materials highlight the potential of these hybrids to serve as practical platforms for real-world applications—enabling the development of smarter sensors, responsive coatings, and next-generation photonic devices with greater ease and scalability.

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