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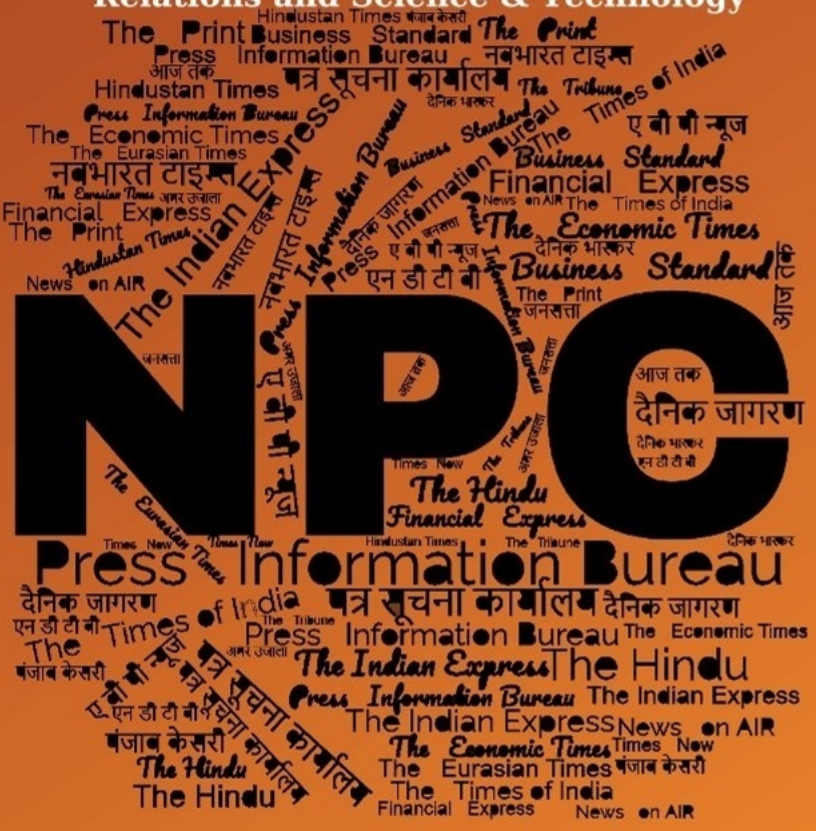
समाचार पत्रों से चयनित अंश
Newspapers Clippings

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

A Daily service to keep DRDO Fraternity abreast with DRDO Technologies, Defence Technologies, Defence Policies, International Relations and Science & Technology



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pathbreaking innovations, QSIP: India's own quantum security chip; 25-qubit QPU: India's first quantum computing chip, powering the future of computation and CAR-T Cell Therapy: India's 1st indigenous cancer cell therapy developed by Indian innovators with the support of the Ministry of Science and Technology

DRDO News

DRDO leads thematic session on 'Electronics & Semiconductor Manufacturing' at ESTIC 2025

Source: PIB, Dt. 04 Nov 2025

Defence Research and Development Organisation (DRDO) is participating in the Emerging Science, Technology and Innovation Conclave (ESTIC) 2025 being held at Bharat Mandapam in New Delhi from November 03-05, 2025. The conclave, on the theme *'Viksit Bharat 2047 - Pioneering Sustainable Innovation, Technological Advancement, and Empowerment'*, was inaugurated by Prime Minister Shri Narendra Modi on November 03, 2025. It is being organised jointly by 13 Ministries and Departments of the Government under the guidance of the Principal Scientific Adviser to the Government of India.

In the inaugural session, the Prime Minister launched Rs 1 Lakh Crore Research Development and Innovation Scheme Fund to promote a private sector-driven research & innovation ecosystem and accelerate India's transformation into a global science & technology hub. He emphasised that efforts are being made to promote research and development in the private sector as well.

The conclave is featuring talks by leading scientists, panel discussions, presentations and technology showcases, providing a platform for collaboration among researchers, industry and young innovators to strengthen the science & technology ecosystem. As one of the key organisers, DRDO is leading the thematic session on *'Electronics & Semiconductor Manufacturing'*. Secretary, Department of Defence R&D and Chairman, DRDO Dr Samir V Kamat will chair a Technical Session on Electronics & Semiconductor Manufacturing on November 05, 2025.

Semiconductors play a major role in modern technology ecosystems, powering critical systems in healthcare, communications, transport, defence, and space. DRDO has made significant strides in semiconductor technology by developing indigenous methods for producing 4-inch Silicon Carbide wafers and fabricating Gallium Nitride High Electron Mobility Transistors up to 150W.

Other officials from DRDO at different panel discussions include Distinguished Scientist & Director General, Micro Electronic Devices, Computational Systems & Cyber Systems Smt Suma Varughese, Director, Defence Metallurgical Research Laboratory, Hyderabad Dr Ramalingam Balamuralikrishnan and Scientist-G at Solid State Physics Laboratory, Delhi Dr Somna Mahajan.

ESTIC 2025 is bringing together over 3,000 participants from academia, research institutions, industry and government, along with nobel laureates, eminent scientists, innovators and policymakers. Deliberations focus on 11 key areas, including Advanced Materials & Manufacturing, Artificial Intelligence, Bio-Manufacturing, Blue Economy, Digital Communications, Electronics & Semiconductor Manufacturing, Emerging Agriculture Technologies, Energy, Environment & Climate, Health & Medical Technologies, Quantum Science & Technology, and Space Technologies.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=2186245

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Defence News

17th India-Israel Joint Working Group meeting on defence cooperation held in Tel Aviv

Source: PIB, Dt. 04 Nov 2025

The 17th meeting of Joint Working Group (JWG) on defence cooperation, co-chaired by Defence Secretary Shri Rajesh Kumar Singh and Director General of Israeli Ministry of Defence Maj Gen (Res) Amir Baram, took place in Tel Aviv on November 04, 2025. An MoU on Defence Cooperation was signed during the meeting to provide a unified vision and policy direction to deepen the already strong defence cooperation between the two countries.

A wide range of areas for cooperation have been identified in the MoU that will benefit both countries. Important fields include strategic dialogues of mutual interest, training, defence industrial cooperation, and capabilities including Science & Technology, Research & Development and Technological Innovation, Artificial Intelligence and Cyber Security cooperation. The MoU will enable the sharing of advanced technology and would promote co-development and co-production.

The JWG reviewed the ongoing defence cooperation initiatives and agreed that both the nations have benefited from each other's strengths. The two sides discussed the potential areas for future collaboration in the field of technology as well as enhancing operational capabilities. They also deliberated on various issues, including shared challenges of terrorism and underscored their collective resolve to fight against the threat.

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3RD EDITION OF MARITIME INFORMATION SHARING WORKSHOP MARITIME SECURITY SEMINAR GURUGRAM, INDIA

Source: PIB, Dt. 04 Nov 2025

The Maritime Security Seminar, conducted as part of the Maritime Information Sharing Workshop (MISW) 25, concluded on 04 Nov 25. The ongoing three-day workshop (03-05 Nov 25), themed ***"Enhancing Real-Time Coordination and Information Sharing Across the Indian Ocean Region,"*** is being hosted by IFC–IOR and has brought together over 57 participants from 30 countries, including representations from IORA, DCoC/JA, and BIMSTEC.

The seminar commenced with an opening address by Vice Admiral Tarun Sobti, Deputy Chief of Naval Staff, who underscored the importance of collaboration, interoperability, and trust-based partnerships to address the evolving maritime challenges in the Indian Ocean Region. This was followed by a Keynote Address by Mr. Sushil Mansing Khopde, IPS, Additional Director General, Directorate General of Shipping, who highlighted India's maritime initiatives and efforts towards strengthening the region's maritime security architecture through cooperative engagement and regulatory alignment.

Over the two days of the seminar, participants deliberated on a wide range of topics shaping the maritime security landscape, including aspects of regional security dynamics, the role of information networks, operational coordination, maritime law, industry perspectives, and transnational maritime crime. The sessions underscored the importance of technological integration, data interoperability, and collective commitment in building a resilient and responsive maritime security framework. The seminar concluded

with an address by Rear Admiral Nirbhay Bapna, (CS NCO), who highlighted the need for synergy among regional information-sharing frameworks and reaffirmed that collaboration and sustained dialogue remain central to ensuring a safe and secure maritime domain.

On 05 Nov 25, the MISW-25 will feature a Table Top Exercise (TTX) at IFC–IOR, where the principles of information sharing, interoperability, and coordinated response will be put into practice through simulated maritime security scenarios. The TTX will be conducted on the indigenously developed Maritime Analytical Tool for Regional Awareness (MANTRA) software. Delegates will be tasked with responding to simulated maritime situations including piracy incidents, drug smuggling, irregular human migration and distress-at-sea scenarios. The exercise will focus on multi-agency coordination, rapid information sharing and synchronised response planning. The exercise aims at refining real-time information sharing in achieving coherent maritime security outcomes, exposing participants to the complex dynamics of maritime incident reporting from detection and verification to dissemination and coordinated response.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=2186675

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INDIAN NAVY TO COMMISSION 'IKSHAK', CHARTING A NEW COURSE IN INDIGENOUS HYDROGRAPHIC EXCELLENCE

Source: PIB, Dt. 04 Nov 2025

The Indian Navy is poised to enhance its hydrographic survey capabilities with the commissioning of Ikshak, the third vessel of the Survey Vessel (Large) [SVL] class and the first to be based at the Southern Naval Command. The ship will be formally commissioned into service in presence of Adm Dinesh K Tripathi, Chief of the Naval Staff, at a ceremony at Naval Base, Kochi on 06 Nov 2025.

Built by Garden Reach Shipbuilders and Engineers (GRSE) Ltd., Kolkata, Ikshak stands as a shining example of India's growing self-reliance in shipbuilding. The vessel embodies over 80% indigenous content, reflecting the success of the Aatmanirbhar Bharat initiative and collaborative synergy between GRSE and Indian Micro, Small and Medium Enterprises (MSMEs).

The name 'Ikshak', meaning 'Guide' in Sanskrit, aptly defines the ship's role as a sentinel of precision and purpose. The vessel is designed to undertake full-scale coastal and deep-water hydrographic surveys of ports, harbours, and navigational channels. The data generated will be vital for ensuring safe navigation at sea, strengthening India's maritime safety framework.

Equipped with state-of-the-art hydrographic and oceanographic equipment, including a high-resolution multi-beam echo sounder, Autonomous Underwater Vehicle (AUV), Remotely Operated Vehicle (ROV), and four Survey Motor Boats (SMBs), Ikshak brings unmatched versatility and capability to the Navy's hydrographic fleet. The ship is also fitted with a helicopter deck, extending its operational reach and enabling multi-domain missions.

The commissioning of Ikshak marks a significant milestone in the Indian Navy's ongoing efforts to augment its survey and charting infrastructure. As a symbol of indigenous strength, technical excellence and maritime stewardship, Ikshak is ready to serve the nation — charting the unknown and safeguarding India's vast maritime frontiers.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=2186562

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Not opposed to new structure : IAF Chief on theaterisation move

Source: The Tribune, Dt. 05 Nov 2025

Not opposed to new structure: IAF Chief on theaterisation move

TRIBUNE NEWS SERVICE

NEW DELHI, NOVEMBER 4

Any decision to create a new structure to deepen synergy between the three armed forces will be taken in the national interest, Indian Air Force Chief Air Chief Marshal AP Singh on Tuesday said, adding that deliberations on the proposal are underway. He was referring to the proposed creation of "theatre commands" — also called "theaterisation" in military jargon.

Singh said he supported a joint structure that could include the three services, paramilitary forces and certain civilian entities to handle issues such as the use of drones. He denied that the IAF is opposed to the initiative but urged that reforms be taken forward only after careful discussion and analysis.

"I am not saying that we do not need another structure. We may need another joint structure. But my way of looking at it is, let's not go by some structures that exist somewhere else and say this will fit us," he told the India Defence Conclave hosted by a media house.

Asked whether the IAF opposed theatre commands, especially after Operation Sindoor, Singh said the focus should be on assessing current capabilities and performance: "Let's look at what we have today — where did we falter, or did we falter. If we did not, then what did we do good. Let's make it a more formalised way."

Two months earlier at the Army War College, Mhow, the IAF Chief had argued for a joint planning and coordination centre in New Delhi: "We plan centrally and execution of tasks is de-centralised," he said. At Tuesday's event he described Operation Sindoor as a reflection of tri-services synergy, with all three services operating as a team.

Also speaking at the conclave, Navy Chief Admiral DK Tripathi said semiconductors can be as decisive as submarines, and secure data links matter as much as secure sea lanes.

Armed forces personnel attend the 10th edition of the India Defence Conclave in New Delhi on Tuesday. PTI

DRONES CANNOT WIN WARS

> Drones cannot actually win you wars. They can aid, they can create confusion. If you want to finally hit a place, decimate a place deep inside enemy territory, you need weapons that will carry a punch. A drone cannot do that as of now. Air Chief Marshal AP Singh

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Army chief reviews Kharga Corps preparedness in ambala

Source: The Pioneer, Dt. 05 Nov 2025

ARMY CHIEF REVIEWS KHARGA CORPS' PREPAREDNESS IN AMBALA

Army Chief General Upendra Dwivedi visited the Kharga Corps in Haryana's Ambala during which he reviewed the formation's operational preparedness, and commended it for its "exemplary performance" during Operation Sindoor, officials said on Tuesday.

He was briefed on initiatives aimed at enhancing combat readiness, integrating cutting-edge technologies and strengthening inter-agency synergy. The Chief of the Army Staff visited the Ambala-based Corps on Monday, a senior official said.

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Navy chief hails 100th indigenous ship

Source: The Pioneer, Dt. 05 Nov 2025

Navy chief hails 100th indigenous ship

PIONEER NEWS SERVICE
New Delhi

Underlining the Navy's stress on self-reliance, Navy Chief Admiral Dinesh K Tripathi on Tuesday said one new indigenous warship or submarine is being added to the force every 40 days as he outlined his force's focus on building sovereign capabilities in the maritime domain to deal with myriad security challenges.

The Indian Navy has embraced 'aatmanirbharta' (self-reliance) not only as a strategic imperative, but also as an investment towards future assurance, he said, adding the force aims to operate over 200 warships and submarines by 2035.

Admiral Tripathi, speaking at the India Defence Conclave hosted by Bharat Shakti, identified self-reliance, synergy and security as three major pillars for any maritime power and asserted that the Indian Navy was moving towards bolstering its overall might.

"On an average, one new indigenous warship or submarine is being added to the Indian Navy every 40 days. As we look to become a 200 plus ship Navy by 2035, all of our 52 ships presently on order are being built in Indian shipyards," he said.

"Moving beyond platforms, our aim is to take aatmanirbharta (self reliance) to component level and build a fully aatmanirbhar force by 2047," he said.

The Indian Navy currently operates around 145 ships and submarines.

In his remarks, Admiral Tripathi underlined the need for locally-developed defence capabilities to combat future security challenges and even argued that indigenous strength extends far beyond the battlefields.

"It is now enmeshed with industrial ecosystems, innovation chains, and information networks, where semiconductors can be as decisive as submarines, and secure dala links matter as much as secure sea lanes," he said.

"In my view, three enablers anchor this strength, self-reliance, synergy and security, each reinforcing the other, and together defining a modern maritime power," he said.

Admiral Tripathi, delving into geopolitical powerplay, said "alignment of convenience" was not the Indian Navy's priority as it is focusing on "convergence of purpose and principle" in forging collaborations.

"As we advance towards our vision of becoming Viksit Bharat or a developed country by 2047, partnerships, for us, would never be an alignment of convenience; but remain a convergence of purpose and principle," he said.

"Our endeavour would be to translate indigenous strength and purposeful partnerships to nurture a region that is free, open, inclusive and rules-based, not by circumstance, but by collective choice and sustained commitment," he said. The Navy Chief also noted that India's approach of self-reliance or aatmanirbharta today is moving beyond 'Make in India' to 'Trust in India'.

"Nowhere is this more visible than in the defence sector. India's defence production has more than tripled over the last decade and crossed over ₹1.5 lakh crore last year," he said.

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B-1B bomber to take part in exercise with US air force

Source: The Tribune, Dt. 06 Nov 2025

B-1B bomber to take part in exercise with US air force

NEW DELHI, NOVEMBER 5

Amid strained India-US ties over trade and tariffs, the Indian Air Force (IAF) and the US air force will hold a joint exercise in which the strategic bomber 'B-1B Lancer' will take part.

Sources confirmed the participation of the US plane, which is a specialised platform used by the US to carry out long-range missions, in the exercise in South India.

The first-of-its-kind exercise will focus on the "integration" of the IAF's operational assets with the US bomber. The bomber was at the Aero India, Bengaluru, in February and had also come in 2023. — TNS

B-1B Lancer

MiG-21 set to soar again as part of IAF's heritage fleet

Source: The Pioneer, Dt. 05 Nov 2025

MiG-21 set to soar again as part of IAF's heritage fleet

AJAY BANERJEE
TRIBUNE NEWS SERVICE

NEW DELHI, NOVEMBER 5

The Indian Air Force's iconic MiG-21 fighter jet, phased out in September, is set to be 'revived' as part of the IAF's "Heritage Flight" programme.

The IAF's heritage wing flies retired aircraft at commemorative events and air shows to showcase the evolution of Indian military aviation and honour its legacy.

The current inventory includes three World War II-era aircraft —the British-origin de Havilland DH-82 Tiger Moth, and the American-made T-6G Harvard and Douglas C-47 Dakota.

The MiG-21 will soon join this fleet. A set of aircraft currently stationed at Nashik are being assessed for inclusion. The main challenge lies in maintaining the planes and engines and sourcing spare parts. Since the MiG-21 was licence-produced in India by Hindustan Aeronautics Limited (HAL), with engines made and overhauled domestically, an inventory of parts already exists. The IAF, with its decades of experience, also maintains a detailed schedule for replacing sub-units.

It is not yet clear how many MiG-21s will be retained in the heritage fleet. After 62 years of service, the aircraft was officially decommissioned on September 26, 2025, at a ceremony held at the Air Force Station in Chandigarh — the same city where it was first inducted in 1963.

The IAF's heritage wing, initially called the "Vintage Aircraft Flight", was set up in April 1988 at Air Force Station, Palam, but was suspended the following year. It was revived in 2012 and later renamed the "Heritage Flight".

Over its long service life, the MiG-21 and its variants were part of several major operations — including the 1971 Bangladesh War, the 1999 Kargil conflict and the 2019 Balakot airstrike. Group Captain Abhinandan Varthaman was flying a MiG-21 during the aerial engagement.

Separately, the IAF has received numerous requests from educational institutions, war memorials and military museums for airframes of the retired jets to be put on display. The IAF follows a multi-step process for such allocations — providing airframes without engines, avionics, or weapons. Private institutions are required to pay up to Rs 30 lakh for each airframe, while transfers to government museums or war memorials are free of cost.

The process of retiring and repurposing airframes begins once an aircraft reaches the end of its operational life due to age or obsolescence. As MiG-21s have been phased out in batches over the years, several have already been allotted for static display across the country.

MiG-21 was officially decommissioned on September 26, 2025. FILE

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सीडीएस ने कहा, ऑपरेशन सिंदूर के बाद थिएटर कमांड की ज़रूरत बढ़ गई है

Source : Dainik jagran, Dt. 05 Nov 2025

सीडीएस बोले, आपरेशन सिंदूर के बाद थिएटर कमान की आवश्यकता बढ़ गई है

भारत रक्षा सम्मेलन-2025 में कहा, सशस्त्र बलों ने कुछ और सबक सीखे हैं

नई दिल्ली, प्रेट: चीफ आफ डिफेंस स्टाफ जनरल अनिल चौहान ने मंगलवार को कहा कि आपरेशन सिंदूर के बाद सशस्त्र बलों ने कुछ और सबक सीखे हैं और इसे त्रिपोजित थिएटराइजेशन के माडल में शामिल करने की जरूरत है। इसके कारण थिएटर कमान की आवश्यकता बढ़ गई है।

रक्षा थिंक टैंक भारत शक्ति द्वारा आयोजित भारत रक्षा सम्मेलन 2025 में एक बातचीत के दौरान उन्होंने कहा कि मई में किए गए निर्णायक सैन्य अभियान के बाद, हमारे पास पाकिस्तान के कोने-कोने में आइएसआर (खुफिया, निगरानी और टोही) और गतिज संचालन क्षमताएं होनी चाहिए, जो मुझे लगता है कि नई सामान्य बात होगी। सशस्त्र बलों के लिए नई सामान्य स्थिति में तब्दील होना चाहिए। इसका मतलब होगा 24x7 बेहतर परिचालन तैयारी, जो मुझे लगता है कि बहुत आवश्यक है। हमें अपनी वायु रक्षा, काउंटर-यूएएस (मानव रहित हवाई प्रणाली), इलेक्ट्रानिक युद्ध में बेहतर तैयारी करनी चाहिए, यह नई सामान्य स्थिति होनी चाहिए, क्योंकि हम इसी तरह के युद्ध की उम्मीद कर रहे हैं।

थिएटर संबंधी योजना पर वायुसेना प्रमुख ने कहा, हम नए ढांचे के खिलाफ नहीं: कार्यक्रम में वायुसेना प्रमुख एयर चीफ मार्शल एपी सिंह ने सेना के लिए प्रस्तावित थिएटर संबंधी योजना पर मंगलवार को कहा कि तीनों सेनाओं के बीच तालमेल के लिए एक नया ढांचा बनाने का कोई भी फैसला राष्ट्रीय हित में होगा और इस पर विचार-विमर्श चल रहा है। एक संवाद सत्र में एयर चीफ मार्शल ने ड्रोन के इस्तेमाल से संबंधित मुद्दों को संभालने के लिए तीनों सेनाओं, अर्धसैनिक बलों और कुल नागरिक संस्थाओं को मिलाकर एक संयुक्त ढांचा बनाने की भी वकालत की। उन्होंने इस धारणा को भी खारिज किया कि भारतीय वायुसेना (आइएएफ) सुधार पहल का विरोध कर रही है और सुझाव दिया कि नए सुधार उपाय को सावधानीपूर्वक चर्चा और विश्लेषण के बाद आगे बढ़ाया जाना चाहिए।

जटिल खतरों के कारण कोई भी राष्ट्र अकेले सुरक्षित नहीं रह सकता: सेना प्रमुख: इस दौरान थल सेनाध्यक्ष जनरल उपेंद्र द्विवेदी ने कहा कि जटिल खतरों से भरी दुनिया में कोई भी देश अकेले सुरक्षित नहीं है और साझा रक्षा नजरिया ही "सबसे मजबूत ढाल" है। उन्होंने कहा कि भारत की "ढाई मोर्चों की चुनौती" और "आपरेशन सिंदूर के बाद का सशक्तिकरण" सशस्त्र बलों को क्रमिक विकास और सेना में शामिल होने के लिए अधिक लचीलापन दे रहा है। वरिष्ठ सैन्य अधिकारियों, रक्षा विशेषज्ञों, उद्योग प्रतिनिधियों और अन्य लोगों की एक सभा को संबोधित करते हुए उन्होंने युद्ध की बदलती प्रकृति और क्षमताओं के निर्माण, रक्षा अनुसंधान एवं विकास में निवेश और उभरती प्रौद्योगिकियों का लाभ उठाने की आवश्यकता पर जोर दिया।

क्या है थिएटर माडल: 'थिएटर माडल' के तहत, सरकार थलसेना, वायुसेना और नौसेना की क्षमताओं को एकीकृत करना चाहती है और युद्धों तथा अभियानों के लिए उनके संसाधनों का बेहतर उपयोग करना चाहती है। प्रत्येक थिएटर कमांड में थलसेना, नौसेना व वायुसेना की इकाइयां होंगी ये सभी एक विशिष्ट भौगोलिक क्षेत्र में सुरक्षा चुनौतियों का सामना करने के लिए एक इकाई के रूप में काम करेंगी। वर्तमान में थलसेना, नौसेना, वायुसेना की अलग-अलग कमान हैं।

• सीडीएस ने कहा, पाक के हर कोने की जानकारी होनी चाहिए
• वायु रक्षा, इलेक्ट्रानिक युद्ध में बेहतर तैयारी करने पर जोर
• वायुसेना प्रमुख बोले, हम नए ढांचे के खिलाफ नहीं हैं

नौसेना प्रमुख ने कहा, प्रत्येक 40 दिन में एक नया स्वदेशी युद्धपोत या पनडुब्बी कर रहे शामिल

इस दौरान नौसेना प्रमुख एडमिरल दिनेश के त्रिपाठी ने कहा कि नौसेना में हर 40 दिन में एक नया स्वदेशी युद्धपोत या पनडुब्बी शामिल की जा रही है। उन्होंने सुरक्षा संबंधी विभिन्न चुनौतियों से निपटने के लिए समुद्री क्षेत्र में साझा क्षमता निर्माण के प्रयासों को भी रेखांकित किया। एडमिरल त्रिपाठी ने कहा कि भारतीय नौसेना ने आत्मनिर्भरता को न केवल रणनीतिक अनिवार्यता के रूप में अपनाया है, बल्कि भविष्य के आश्वासन के लिए एक निवेश के रूप में भी अपनाया है। उन्होंने कहा कि बल का लक्ष्य 2035 तक 200 से अधिक युद्धपोतों और पनडुब्बियों का संचालन करना है।

नई दिल्ली में आयोजित 10वें भारत रक्षा सम्मेलन को संबोधित करते नौसेना प्रमुख एडमिरल दिनेश के त्रिपाठी• प्रेट

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त्रिशूल मे स्वदेशी ड्रोन, दिखायी सटिक्ता और लंबी उड़ान क्षमता

Source : Navbharat Times, Dt. 05 Nov 2025

'त्रिशूल' में स्वदेशी ड्रोन, दिखाई सटीकता और लंबी उड़ान क्षमता

तीनों सेनाओं की जॉइंट एक्सरसाइज का सबसे अहम और फाइनल फेज शुरू

'अग्नि', 'भैरव' भी अभ्यास का हिस्सा

Poonam.Pandey
@timesofindia.com

■ नई दिल्ली: भारतीय सेना, नेवी और एयरफोर्स की जॉइंट एक्सरसाइज 'त्रिशूल' में भारतीय सेना ने अपने स्वदेशी ड्रोन भी परखे। ये ड्रोन सेना ने इनहाउस डिवेलप किए और फिर स्वदेशी कंपनियों ने ही इनका उत्पादन किया। त्रिशूल एक्सरसाइज 3 नवंबर से शुरू हुई और 13 नवंबर तक चलेगी। एक्सरसाइज का सबसे अहम फेज भी मंगलवार को शुरू हो गया।

स्वदेशी ड्रोन का फील्ड टेस्ट: आत्मनिर्भर भारत की सोच के तहत भारतीय सेना भी स्वदेशी तकनीक विकसित करने पर जोर दे रही है, ताकि युद्ध के मैदान में बहुत मिल सके। सेना के सदर्न कमांड ने एक सिस्टम भी बनाया है। जिसमें ड्रोन की डिजाइनिंग की जा रही है और फिर उसका उत्पादन स्वदेशी कंपनियों के जरिए किया जा रहा है। सेना के ड्रोन हब नई पीढ़ी के मानव रहित हवाई सिस्टम तैयार कर रहे है।

त्रिशूल एक्सरसाइज में भारतीय सेना की अग्नि प्लाटून और भैरव बटालियन भी हिस्सा ले रही है। ऑपरेशन सिंदूर के बाद सेना ने अपनी हर इंफेंट्री (पैदल सेना) बटालियन में अग्नि प्लाटून बनाई है। 'अग्नि' ड्रोन प्लाटून हैं। इन प्लाटून के पास कई तरह के ड्रोन है जिनसे निगरानी, जानकारी जुटाने, दुश्मन पर नजर रखने और हमले (लॉइटरिंग म्युनिशन) जैसे काम किए जा सकते है।

सबसे अहम फेज शुरू

तीनों सेनाओं की एक्सरसाइज त्रिशूल गुजरात में राजस्थान में चल रही है। इसका मकसद तीनों सेनाओं के बीच आपसी तालमेल और संयुक्त ऑपरेशन की तैयारी को और मजबूत करना है। तैयारी धरण पूरा होने के बाद अब इस अभ्यास का अंतिम और सबसे महत्वपूर्ण धरण शुरू हो गया है।

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विदेश मंत्री एस जयशंकर और इजराइली विदेश मंत्री गिदोन सार के बीच बातचीत

भारत-इजराइल ने किए रक्षा समझौते

जनसत्ता ब्यूरो
नई दिल्ली, 4 नवंबर।

भारत और इजराइल ने मंगलवार को एक रक्षा समझौते पर हस्ताक्षर किए, जिसके तहत उन्नत प्रौद्योगिकियों के आदान-प्रदान के साथ-साथ प्रमुख हथियार प्रणालियों और सैन्य उपकरणों के संयुक्त विकास और उत्पादन को बढ़ावा दिया जाएगा। यह समझौता दोनों देशों के पहले से मजबूत रणनीतिक संबंधों को और मजबूत करने की दिशा में एक महत्त्वपूर्ण कदम माना जा रहा है। रक्षा सहयोग पर भारत-इजराइल संयुक्त कार्य समूह (जेडब्लूजी) की बैठक के बाद तेल अवीव में समझौता ज्ञापन (एमओयू) पर हस्ताक्षर किए गए।

रक्षा मंत्रालय ने एक बयान में कहा, 'महत्त्वपूर्ण क्षेत्रों में साझा हित के रणनीतिक संवाद, प्रशिक्षण, रक्षा औद्योगिक सहयोग तथा विज्ञान एवं प्रौद्योगिकी, अनुसंधान एवं विकास और तकनीकी नवाचार, कृत्रिम बुद्धिमत्ता और साइबर सुरक्षा सहयोग समेत क्षमताएं शामिल हैं।' उसने कहा, 'उन्होंने आतंकवाद की साझा चुनौतियों समेत विभिन्न मुद्दों पर विचार-विमर्श किया तथा इस खतरे से लड़ने के अपने सामूहिक संकल्प को रेखांकित किया।'

भारत और इजराइल ने आतंकवाद को कतई बर्दाश्त नहीं करने की वैश्विक नीति विकसित करने और व्यापार, चुनियादी ढांचे व कनेक्टिविटी के क्षेत्रों में सहयोग बढ़ाने के उपायों पर मंगलवार को चर्चा की। इस दौरान भारत ने यह उम्मीद जताई कि अमेरिका की मध्यस्थता से तैयार की गई गाजा शांति योजना क्षेत्र में स्थायी शांति लाने में सहायक होगी।

विदेश मंत्री एस जयशंकर और इजराइल के विदेश मंत्री गिदोन सार के बीच यह बातचीत हुई। दोनों देश आने वाले महीनों में इजराइल के प्रधानमंत्री बेंजामिन नेतन्याहू की भारत यात्रा की संभावना पर भी विचार कर रहे हैं। बैठक में भारत-पश्चिम एशिया-यूरोप आर्थिक गलियारा (आइएमईसी) पर भी चर्चा हुई, जिसके तहत क्षेत्रीय संपर्क व व्यापार को बढ़ावा देने के अवसरों की तलाश की जा रही है।

मंत्रालय ने कहा कि दोनों देशों के बीच पहले से ही मजबूत रक्षा सहयोग को और गहरा करने के लिए एकीकृत दृष्टिकोण और नीतिगत दिशा प्रदान करने के लिए रक्षा सहयोग पर इस समझौता ज्ञापन पर हस्ताक्षर किया गया है। मंत्रालय ने कहा, 'भारत-इजराइल रक्षा साझेदारी गहरे आपसी विश्वास और साझा सुरक्षा हितों पर आधारित दीर्घकालिक है।' मंत्रालय ने कहा कि समझौता ज्ञापन में सहयोग के कई क्षेत्रों की पहचान की गई है जिनसे दोनों देशों को लाभ होगा।

भारत और इज़राइल ने रक्षा समझौते किए

Source : JanSatta, Dt. 05 Nov 2025

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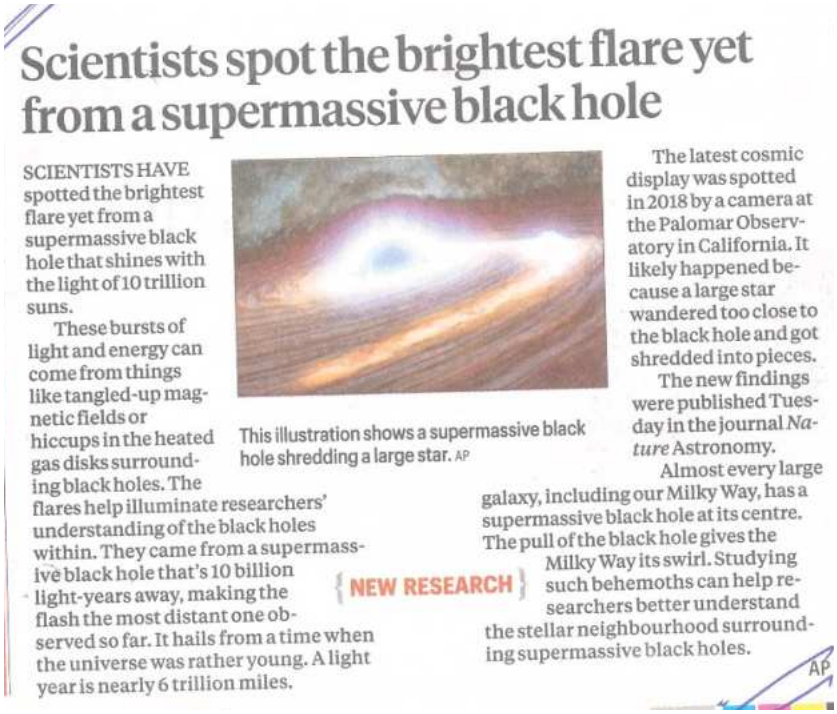
Science & Technology News

Scientists spot the brightest flare yet from a supermassive black hole

Source: The Tribune, Dt. 06 Nov 2025



Scientists spot the brightest flare yet from a supermassive black hole

SCIENTISTS HAVE spotted the brightest flare yet from a supermassive black hole that shines with the light of 10 trillion suns.

These bursts of light and energy can come from things like tangled-up magnetic fields or hiccups in the heated gas disks surrounding black holes. The flares help illuminate researchers' understanding of the black holes within. They came from a supermassive black hole that's 10 billion light-years away, making the flash the most distant one observed so far. It hails from a time when the universe was rather young. A light year is nearly 6 trillion miles.

This illustration shows a supermassive black hole shredding a large star. AP

{ NEW RESEARCH }

The latest cosmic display was spotted in 2018 by a camera at the Palomar Observatory in California. It likely happened because a large star wandered too close to the black hole and got shredded into pieces.

The new findings were published Tuesday in the journal *Nature* Astronomy.

Almost every large galaxy, including our Milky Way, has a supermassive black hole at its centre. The pull of the black hole gives the Milky Way its swirl. Studying such behemoths can help researchers better understand the stellar neighbourhood surrounding supermassive black holes.

AP

Dr. Jitendra Singh lauds the launch of the historic ₹1 Lakh Crore Research, Development, and Innovation (RDI) Fund Scheme by PM Shri Narendra Modi, describing it as a transformative milestone in India's scientific journey

Source: PIB, Dt. 05 Nov 2025

Union Minister of Science & Technology Dr. Jitendra Singh today lauded the launch of the historic ₹1 Lakh Crore Research, Development, and Innovation (RDI) Fund Scheme by PM Narendra Modi, describing it as a transformative milestone in India's scientific journey.

Delivering the Valedictory Address at the first Emerging Science, Technology & Innovation Conclave (ESTIC 2025) at Bharat Mandapam, Dr. Jitendra Singh expressed pride and optimism at the success of the

three-day conclave which, he said, “transformed Bharat Mandapam into a true temple of innovation, where ideas met inspiration, research met relevance, and discovery met determination.”

Dr. Jitendra Singh said that India is on the path to becoming a global hub of scientific talent, technology creation, and innovation-led growth, driven by the mission 2047.

“Prime Minister Narendra Modi, despite his hectic schedule, gave a full hour to this event, underlining the Government’s highest priority for science and innovation. His address touched upon all critical domains, from biofortified crops and nutritional security to personalized medicine, clean energy, and biofertilizers,” Dr. Jitendra Singh said.

The Minister commended the Office of the Principal Scientific Adviser for conceptualizing and coordinating the Conclave, which brought together 13 Ministries and Departments to align national priorities in emerging research and innovation domains. He also appreciated the participation of Nobel Laureate Sir Andre Geim, and several distinguished scientists, thought leaders, and industry pioneers, whose deliberations across 11 thematic frontiers will shape a strategic roadmap for the next decade.

Highlighting the participation of young researchers and deep-tech start-ups, Dr. Singh said their energy, ingenuity, and commitment reflected the “spirit of New India’s innovation.” He noted that the poster and start-up sessions served as a valuable networking platform for young innovators seeking collaborations and investments.

“Many of our young participants are new entrants to the world of academic presentations. We must guide them to communicate their research effectively and evolve as future science leaders,” he said.

The Minister proposed organizing virtual workshops for poster presenters to improve presentation quality and enhance learning outcomes. Dr. Jitendra Singh also suggested that future editions of ESTIC could institutionalize structured interactions between start-ups and investors, helping connect promising innovators with potential partners.

“Investors who attend such events are not here just to observe; they seek tangible collaborations. If we can match start-up profiles with suitable investors in advance, we can facilitate productive engagements,” he added.

The Minister further recommended that future conclaves adopt a single rapporteur system to summarize thematic discussions, ensuring concise and effective reporting while saving time during plenary sessions.

Dr. Jitendra Singh said the Conclave exemplified the ‘Whole-of-Government, Whole-of-Nation’ approach envisioned by Prime Minister Narendra Modi, bringing together ministries, academia, and industry on one platform. He noted that the deliberations will contribute to the long-term goals of the Anusandhan National Research Foundation (ANRF), the institutional backbone for convergence between academia, industry, and government.

He also praised the VAIBHAV Fellowship sessions held alongside ESTIC 2025, which showcased the passion of Indian-origin scientists across the globe to contribute meaningfully to their motherland. “The VAIBHAV Fellows’ enthusiasm went beyond academic collaboration; it reflected emotional and intellectual commitment to the nation. We must find structured ways to engage them further,” he said.

Concluding his address, Dr. Jitendra Singh said that ESTIC 2025 marks the beginning of a new chapter in India’s scientific evolution. The ideas and collaborations emerging from the Conclave, he said, will be translated into actionable policies and programs aligned with Viksit Bharat 2047.

“Our goal is clear, to make India a global powerhouse of science, innovation, and technology. Your ideas, your collaborations, and your experiments are the building blocks of a self-reliant, future-ready nation,” Dr.

Jitendra Singh said, extending his appreciation to all ministries, scientific institutions, and industries for making ESTIC 2025 a grand success.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=2186738

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CSIR Showcases India's Leap in Advanced Materials and Manufacturing at ESTIC 2025

Source: PIB, Dt. 05 Nov 2025

The Council of Scientific and Industrial Research (CSIR) hosted impactful technical session on Day 3 of the Empowering Science, Technology and Innovation Conclave (ESTIC) 2025, highlighting India's advancements in Advanced Materials & Manufacturing. The session brought together leading scientists, innovators, and entrepreneurs to discuss transformative technologies shaping the nation's innovation ecosystem.

The Advanced Materials & Manufacturing plenary session, chaired by Dr. (Mrs) N. Kalaiselvi, Director General, CSIR and Secretary, DSIR, featured a diverse range of discussions on how advanced materials are redefining product realization, industrial design, and sustainability.

Speaking at the plenary, Dr. (Mrs) N. Kalaiselvi, Director General, CSIR, emphasized that science, research and development, and advanced materials are the key pillars for Viksit Bharat 2047. She underlined that breakthroughs in materials science, clean energy, biotechnology, and emerging technologies will shape the country's growth trajectory. With CSIR and India's premier scientific institutions leading cutting-edge research, India is laying the foundation for a technologically empowered, self-reliant, and innovation-driven future.

Dr. Kalaiselvi added that ESTIC 2025 serves as an impactful platform where ideas, science, and advanced technologies intersect—accelerating the realization of a future-ready and knowledge-powered Bharat.

Delivering the keynote address, Prof. Giridhar Udapi Rao Kulkarni, Former President, JNCASR, Bengaluru, explained how the world is moving from matter to materials — from raw elements to engineered structures designed with precision, performance, and purpose. From semiconductors and composites to smart polymers, he illustrated how advanced materials are unlocking next-generation technologies and real-world products, powering India's transformation from a Stone Age mindset to the Age of Technology. He emphasized that with nano-scale precision, shape control, and dimensional engineering, scientific innovation can drive manufacturing breakthroughs that accelerate India's vision for Viksit Bharat 2047, encapsulated in the continuum: Science → Innovation → Manufacturing → Product.

The session featured insightful presentations by leading innovators and entrepreneurs. Shri Pawan Kumar Chandana, Co-founder and CEO, Skyroot Aerospace, Hyderabad, spoke on "Elevating Aerospace: The Frontier of Advanced Composites and 3D Printing", underlining indigenous innovation driving India's private space sector. He mentioned that Skyroot Aerospace is developing India's first all-carbon launch vehicle, Vikram-1

Smt. Rajashri Teli, Managing Director, Innovative Projects Pvt. Ltd., Pimpri, presented "From Blueprint to Breakthrough: When Precision Becomes a National Duty", highlighting the importance of design accuracy and women-led leadership in manufacturing.

Prof. T. Pradeep, IIT Madras, Chennai, discussed "Matter Dreams at Scale: Creating the Future of Materials", focused on scalable nanotechnologies for clean water and sustainable solutions.

The innovation leadership talks Prof. B. S. Murty, Raman Research Institute, Bengaluru, focused on "Building India's Quantum Edge", showcasing advances in semiconductor design, photonics, and quantum computing.

The successful concluding session reaffirmed CSIR's unwavering commitment to advancing India's scientific and technological frontiers. The exchange of ideas, insights, and innovations at the conclave demonstrates how collaborative efforts between researchers, industry leaders, and policymakers are accelerating the nation's transition to a knowledge-driven economy. As India charts its path toward Viksit Bharat 2047, the applied research in advanced materials and manufacturing showcased here will be pivotal in fostering self-reliance, sustainable growth, and global competitiveness. Participants departed with a renewed sense of purpose to continue driving breakthroughs that will shape India's future as a global innovation powerhouse.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=2186654

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Startup supported by DST under NQM demonstrates 500 km Quantum-Safe Network

Source: PIB, Dt. 05 Nov 2025

One of the 8 startups supported under the National Quantum Mission (NQM) of the Department of Science and Technology (DST) has successfully demonstrated India's first extensive Quantum Key Distribution (QKD) network, spanning over 500 kilometers.

The major achievement by the Bangalore-based quantum technology company, QNu Labs Pvt. Ltd., which involves a network deployed over existing optical fiber infrastructure, marks a significant milestone in quantum-secure communication.

A formal announcement about the demonstration of (QKD) network spanning over 500 kilometers was made on the sidelines of the Emerging Science, Technology and Innovation Conclave (ESTIC 2025) yesterday. Dr. Jitendra Singh, Union Minister for Science and Technology, Prof. Ajay K. Sood, Principal Scientific Adviser to the Government of India, Dr. Ajai Chowdhry, Chairman, Mission Governing Board of the National Quantum Mission, Prof. Abhay Karandikar, Secretary, Department of Science and Technology, and other officials were present on this occasion.

This demonstration aligns with the vision of the Honorable Prime Minister, Shri Narendra Modi, who envisions India as a prominent leader in emerging technologies and secure digital infrastructure. It also positions India as a key player in the second quantum revolution, opening new horizons for secure digital communication and advanced cybersecurity. This demonstration was made possible under a project funded through the I-Hub Quantum Technology Foundation, a Technology Innovation Hub under the National Mission on Interdisciplinary Cyber-Physical Systems (NMICPS) hosted at IISER Pune.

The Indian Army and its Southern Command contributed significantly in the capability demonstration. The test-bed optical fiber network, to enable this QKD trial, was specially planned and engineered by Southern Command Signals. A team from the Corps of Signals enabled selective access to their fiber network in the Rajasthan Sector. This network included multiple nodes, of which two served as trusted nodes spread along the route to enable end-to-end quantum key exchange across an effective distance of more than 500 kms.

This achievement represents a significant milestone in the advancement of quantum-secure communications within India and contributes directly toward realizing the objectives of the National Quantum Mission. The initiative exemplifies the Synergy of Technology, Research, Industry, and Defence Ecosystem (STRIDE) in fostering collaboration across key sectors to strengthen the nation's technological capabilities. QSIP (Quantum Random Number Generator System in Package), by the same startup, QNu Labs, was presented by the Hon'ble Union Minister to the Hon'ble Prime Minister during his inaugural address at ESTIC 2025. The technology provides India with quantum-certified randomness, used in cryptographic algorithms, offering the strongest defense against current cyber threats and future quantum attacks.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=2186652

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Hon’ble Prime Minister Shri. Narendra Modi gifts three pathbreaking innovations, QSIP: India’s own quantum security chip; 25-qubit QPU: India’s first quantum computing chip, powering the future of computation and CAR-T Cell Therapy: India’s 1st indigenous cancer cell therapy developed by Indian innovators with the support of the Ministry of Science and Technology

Source: PIB, Dt. 05 Nov 2025

Hon’ble Prime Minister Shri. Narendra Modi gifted to the Nation three path breaking innovations - QSIP: India’s own quantum security chip; 25-qubit QPU: India’s first quantum computing chip, powering the future of computation and CAR-T Cell Therapy: India’s 1st indigenous cancer cell therapy developed by Indian Innovators during the ongoing Emerging Science, Technology & Innovation Conclave ESTIC2025. Among them was NexCAR19, the world’s first humanised CAR-T therapy developed in India by ImmunoACT - a groundbreaking innovation truly “Made in India, for the world. This innovation was supported by DBT and BIRAC

The Chimeric Antigen Receptor T-cell (CAR-T) therapy has emerged as a breakthrough in cancer treatment. Clinical trials conducted globally have shown promising results in end stage patients, especially in patients suffering from Acute Lymphocytic Leukemia.

NexCAR19, India’ first living drug, has made gene therapies both affordable and accessible without compromising scientific rigour or patient safety.

ImmunoACT, is a IIT Bombay spin-off, received support from the BioNest initiative of the Biotechnology Industry Research Assistance Council (BIRAC), through funding, mentorship and resources while the start-up was incubated at Society of Innovation and Entrepreneurship (SINE) a Technology Business incubator.

In the year 2021, for Lentivirus manufacturing and clinical trial of India’s first CAR-T at ACTREC center at Tata Memorial Hospital, TMC-IIT Bombay team were partially supported by DBT and BIRAC, through the National Biopharma Mission for the NEXCAR-19 trial in the pediatric patients which is ongoing at Tata Memorial Centre, with ImmnoAct as the manufacturing partner.

Recently, DBT via the Biomanufacturing initiative under the BioE3 Policy gave funding to ImmunoAct for setting up a 200L GMP lentiviral vector and plasmid platforms to scale up the production and also to make

this new therapeutic modality more affordable. This platform will likely incorporate advanced bioreactor technologies to facilitate high-density cell growth and continuous production and enable higher yields and better performance of lentiviral vectors. The GMP grade gene delivery vector can help at least 1000 patients per year for cell and gene therapy.

DBT is also promoting promotes early and late translational research to develop novel & indigenous CAR-T based therapeutics to combat various cancers by supporting interdisciplinary teams to venture into immunotherapeutic solutions for broader spectrum of cancers including both liquid and solid cancers and also ways to overcome the associated toxicities. This includes cancers like Multiple myeloma (MM), Acute Lymphocytic Leukemia, refractory or relapsed B cell Acute Lymphoblastic Leukemia, glioblastoma etc.

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