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समाचार पत्रों से चयनित अंश

Newspapers Clippings

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

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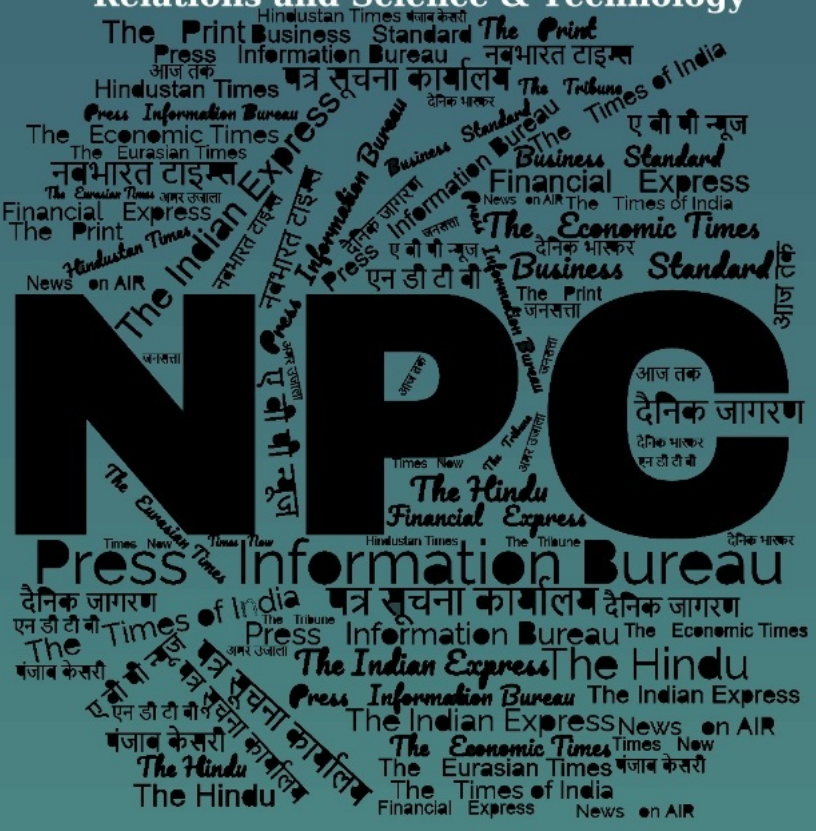

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DRDO News

DRDO & RRU ink MoU to foster collaboration in research, education, training and technology support for defence & internal security

Source: Press Information Bureau, Dt. 22 Dec 2025

Defence Research & Development Organisation (DRDO) and Rashtriya Raksha University (RRU) have signed a Memorandum of Understanding (MoU) to foster collaboration in the areas of research, education, training and technology support for defence & internal security. The MoU was inked by Distinguished Scientist & Director General (Production Coordination & Services Interaction) Dr Chandrika Kaushik and Vice Chancellor, RRU Prof (Dr) Bimal N Patel in the presence of Raksha Mantri Shri Rajnath Singh at South Block, New Delhi on December 22, 2025. Secretary, Department of Defence R&D and Chairman, DRDO Dr Samir V Kamat was also present on the occasion.

The MoU aims to strengthen India's self-reliance in defence and internal security technologies, in line with the national vision of Aatmanirbhar Bharat and the whole-of-nation approach during Amrit Kaal. It reflects a shared commitment to integrating technology, knowledge and operational insight to enhance national security preparedness and reinforce India's strategic autonomy in internal security.

Rashtriya Raksha University, an institution of national importance under the Ministry of Home Affairs and the University Grants Commission (UGC)-designated Nodal Centre for Defence Studies, brings strong academic, training and policy expertise in the domain of internal security. DRDO, the nation's premier defence R&D organisation, contributes cutting-edge indigenous technologies and system-level expertise to meet the requirements of the Armed Forces and security agencies.

Under the MoU, both organisations will collaborate on joint research projects, PhD & fellowship programmes and specialised training & capacity-building programmes for security forces. The collaboration will also include studies on emerging operational challenges, technology gap analysis, forecasting of future requirements, and life-cycle management of DRDO-developed systems inducted into the Central Armed Police Forces and other agencies under the Ministry of Home Affairs.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=2207312&reg=3&lang=1

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Defence News

India, France sign pact to produce direct firing sight, navigation system

Source: The Indian Express, Dt. 23 Dec 2025

The state-owned India Optel Limited (IOL) on Monday signed a collaboration agreement with France's Safran Electronics and Defense for the transfer of production of two high-precision, combat-proven systems—the SIGMA 30N Digital Ring Laser Gyro Inertial Navigation System, used in artillery guns, air defence systems, missiles and radars, and the CM3-MR Direct Firing Sight, designed for artillery guns and anti-drone systems.

A Defence Ministry statement said the agreement was signed by Tushar Tripathi, CMD, IOL and Alexandre Ziegler, head of Defence Global Business Unit for Safran Electronics & Defense, in the presence of Secretary (Defence Production) Sanjeev Kumar. It would pave the way for the local manufacturing of the two systems. IOL is a Defence PSU. The agreement was built on an internal agreement signed between the two sides in January 2024.

The development comes just a month after BEL signed a Joint Venture Cooperation Agreement with Safran for joint production of the Highly Agile Modular Munition Extended Range (HAMMER) Smart Precision Guided Air-to-Ground weapons in India.

Autonomous engagement

According to a Safran statement, SIGMA 30 is designed to optimise operational deployment of artillery units and their intelligence systems. It gives combat platforms an autonomous engagement capability, even when there are no GPS signals.

According to Safran, SIGMA 30 helps determine the precise location of enemy batteries as soon as it detects any firing. “Designed to optimise the operational deployment of artillery units and their intelligence systems, Sigma 30 gives combat platforms an autonomous engagement capability, even when there are no GPS signals,” it had said in a statement. The CM3-MR Direct Firing Sight is for improving artillery guns and anti-drone systems. According to the Defence Ministry statement, “Under the partnership, IOL will be responsible for manufacturing, final assembly, testing, quality control and full life-cycle support, ensuring the systems meet the operational needs of the Indian Army.”

https://indianexpress.com/article/india/india-france-sign-pact-to-produce-direct-firing-sight-navigation-system-10433886/

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India closer to $450m BrahMos pacts with Vietnam, Indonesia

Source: The Times of India, Dt. 23 Dec 2025

India has moved closer to inking deals to export BrahMos supersonic cruise missiles to Vietnam and Indonesia, which collectively will be worth over Rs 4,000 crore ($450 million). Russia, the joint developer of BrahMos missiles that fly at almost three times the speed of sound (Mach 2.8), has assured India that it has no objection to the precision-strike weapon being sold to Vietnam and Indonesia, defence sources said.

With the assurance being given during the delegation-level meeting between defence minister Rajnath Singh and his Russian counterpart Andrei Belousov on Dec 4, a formal no-objection certificate is now awaited from Moscow. “Both Vietnam and Indonesia, after agreeing to the initial deals, may go for more orders in the future,” a source said. Once the deals are inked, Vietnam and Indonesia will become the other Asean countries after the Philippines to buy the air-breathing missiles. India had inked a $375 million contract to supply three anti-ship BrahMos coastal batteries to the Philippines in Jan 2022. “Manila, too, is likely to order more BrahMos missiles,” the source said.

All three countries, incidentally, have major concerns over China’s strong-arm tactics and expansionism in the South China Sea, with confrontations escalating, especially between Manila and Beijing, over the last couple of years. India, on its part, had successfully deployed the BrahMos missiles, whose range has been increased to 450 km from the original 290 km, from Sukhoi-30MKI fighter jets for targeted strikes deep into Pakistan during Operation Sindoor in May. Over the years, Indian armed forces have inked deals worth around Rs 60,000 crore with Indo-Russian joint venture BrahMos Aerospace, with the missiles becoming the prime conventional (non-nuclear) precision-strike weapons for IAF, Navy and Army.

India also plans to begin inducting the new 800-km BrahMos from 2028 onwards, with tests currently underway for the extended-range missiles with a modified ramjet engine and other

upgrades, as was earlier reported by TOI. Apart from Brahmos missiles, India wants to sell the indigenous Akash air defence missile systems, which can intercept hostile aircraft, helicopters, drones and subsonic cruise missiles at a 25-km range, and Pinaka multi-launch rocket systems to the Philippines, Indonesia and Vietnam as well as other “friendly countries” like the UAE and Brazil.

While India is still in the strategically vulnerable position of being among the top three arms importers in the world, it exported a wide range of arms, ammunition, defence sub-systems and components, worth nearly Rs 24,000 crore, to around 80 countries in the 2024-25 fiscal. In this, Armenia is one of India’s biggest clients of ‘finished’ weapon systems like Akash air defence missile systems, Pinaka rocket systems and 155mm artillery guns, as was reported by TOI earlier.

https://timesofindia.indiatimes.com/india/india-closer-to-450m-brahmos-pacts-with-vietnam-indonesia/articleshow/126131232.cms

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Anjadip, indigenous anti-submarine shallow water craft, joins the Navy

Source: The Hindu, Dt. 23 Dec 2025

The Indian Navy on Monday (December 22, 2025) received Anjadip, the third of eight Anti-Submarine Warfare Shallow Water Craft (ASW SWC), indigenously designed and built by Garden Reach Shipbuilders and Engineers (GRSE), Kolkata. The delivery took place in Chennai, marking another significant step in India’s drive towards self-reliance in defence shipbuilding.

The Navy informed that the ASW SWC project is being executed under a Public-Private Partnership between GRSE and L&T Shipyard, Kattupalli. The vessels have been designed and constructed in accordance with the classification rules of the Indian Register of Shipping (IRS), demonstrating the success of collaborative defence manufacturing in the country.

Largest naval warships

At approximately 77 metres in length, the ASW SWCs are the largest Indian naval warships to be propelled by waterjets. They are equipped with state-of-the-art lightweight torpedoes, indigenously developed anti-submarine rockets and shallow-water sonar, enabling effective detection and engagement of underwater threats. These platforms will significantly enhance the Navy's anti-submarine warfare capability, coastal surveillance and mine-laying operations, the Navy added.

Anjadip is named after Anjadip Island off the coast of Karwar in Karnataka and is a reincarnation of the erstwhile INS Anjadip, a Petya-class corvette that was decommissioned in 2003. The naming underscores India's commitment to safeguarding its extensive maritime domain. With this delivery, GRSE has achieved the rare feat of delivering five warships to the Indian Navy in a single year. Anjadip is the 115th warship built by the shipyard and the 77th delivered to the Navy. The vessel was accepted by Rear Admiral Gautam Marwaha, VSM, Chief Staff Officer (Technical), Eastern Naval Command.

Earlier in 2025, GRSE delivered the Advanced Guided Missile Frigate Himgiri, the first two ASW SWCs Arnala and Androth, and the Survey Vessel (Large) Ikshak, all of which have since been commissioned. Fitted with an indigenous 30 mm Naval Surface Gun and boasting over 80% indigenous content, Anjadip exemplifies the government's 'Aatmanirbhar Bharat' vision and the growing strength of India's domestic defence manufacturing ecosystem, the Navy said.

https://www.thehindu.com/news/national/indian-navy-receives-third-indigenous-asw-shallow-water-craft-anjadip-from-grse/article70426390.ece

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पाकिस्तान LoC के पास तैनात कर रहा है ड्रोन डिटेक्शन सिस्टम

Source: NavBharat Times, Dt. 23 Dec 2025

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अपने टैंक भी बदल रहा पाक

■ नई दिल्ली : ऑपरेशन सिंदूर के बाद से पाकिस्तान लगातार ड्रोन डिटेक्शन और जैमिंग सिस्टम तैनात कर रहा है। इंटेलिजेंस सूत्रों के मुताबिक लाइन ऑफ कंट्रोल (LoC) के पास पाकिस्तान ने ड्रोन डिटेक्शन और जैमिंग की 35 यूनिट तैनात की है। ये पाकिस्तान की 8 ब्रिगेड के तहत आती हैं। सूत्रों के मुताबिक पाकिस्तान ने रावलाकोट, कोटली, बिंबर सहित एलओसी के दूसरी तरफ ड्रोन डिटेक्शन सिस्टम तैनात किए हैं। भारतीय सेना जिस तरह अपने बेड़े में अलग अलग तरह के ड्रोन शामिल कर रही है, उससे पाकिस्तान को डर सता रहा है। इसलिए पाकिस्तानी सेना अभी एंटी ड्रोन सिस्टम पर फोकस कर रही है। ऑपरेशन सिंदूर के बाद से पाकिस्तान इसमें तेजी लाया है। ऑपरेशन सिंदूर के बाद से पाकिस्तान जहां अपने ध्वस्त इंफ्रास्ट्रक्चर को ठीक करने में जुटा है वहीं हथियारों की खरीद भी बढ़ी है। इंटेलिजेंस सूत्रों के मुताबिक पिछले 2-3 महीनों में पाकिस्तान ने चीन और टर्की से हथियारों की कई डील पर बात की है। पाकिस्तान अपने पुराने टैंकों को भी बदल रहा है। पाकिस्तान ने इसके लिए चीन ने नए टैंक VT-4 खरीद रहा है। ये चीन के मेन बैटल टैंक है। पाकिस्तान ने चीन से 360 मेन बैटल टैंक VT-4 खरीदने की डील की है जिसमें से कुछ टैंक पाकिस्तान को मिल चुके है। इन्ही टैंक के एक वेरिएंट को लाइसेंस लेकर पाकिस्तान में ही बनाया जा रहा है। इस तरह चीन से मिलने वाले और पाकिस्तान में बनने वाले टैंकों की कुल संख्या करीब 600 हो जाएगी।

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Great Nicobar Airport: A boost to India's defence, connectivity

Source: The Pioneer, Dt. 23 Dec 2025

Planned as a dual-use facility, the Modi Government has prepared an ambitious plan for the construction of a dual-use greenfield international airport at Great Nicobar that will play an important role in the country's national security while improving connectivity in the Indian Ocean Region. Great Nicobar is the southernmost and largest of the Nicobar Islands.

According to the Detailed Project Report (DPR) prepared for the strategic airport, it will be developed as a dual-use military airfield with the control of the airside and Air Traffic Control with the Indian Navy and civil apron control and associated passenger-related facilities with the Airports Authority of India (AAI). The DPR also mentioned the Great Nicobar Development Plan, which is a massive infrastructure plan envisaged by the Government and includes a major trans-shipment port, airport and future strategic defence for the southern tip of Great Nicobar Island.

The population of Great Nicobar Island is projected to reach around 6.5 lakh by 2050. Of this, about 3.25 lakh is expected during Phase 1 between 2025 and 2040, with another 4 lakh added in Phase 2 from 2041 to 2055. By 2075, the population is estimated to rise to 13-15 lakh. The broader development plan includes hotels, resorts, dining and retail facilities concentrated in coastal urban hubs. The current population of the island is only around 6,500. The island's marine and forest ecosystems are expected to support eco-tourism and scientific research, alongside economic activity. The documents estimate that investments linked to the airport, a proposed trans-shipment hub, and tourism facilities could create about 1,05,000 direct jobs by 2050. A further 1,57,700 jobs are expected through indirect employment in services and support sectors.

Located near the crucial Six Degree Channel, one of the world's busiest maritime trade routes, the airport is projected to enhance India's surveillance and response capabilities across the eastern Indian Ocean. It will enable operations by larger military aircraft and sharply reduce response times, particularly as the nearest civilian airport in Port Blair is over 500 km away. The site is surrounded by hills, and necessary site grading has been planned to facilitate safe aircraft operations. The flight path of the aircraft will run over the sea, and there will be minimal disturbance due to the overflying of aircraft at low altitude. The runway at this site is oriented in an approximate north/south direction, which is suitable for the prevailing wind direction, according to the DPR.

Apart from strategic needs, the airport will ensure ease of connectivity and hence present a great opportunity for tourism-oriented development that would put Andaman and Nicobar Islands on the map of global tourist destinations as well, according to the DPR. The Indian mainland is at least 1,500 km from this island, with cities like Delhi ranging at a distance of approximately 3,000 km, while Calcutta and Mumbai are located at a distance of 1,850 and 2,250 km respectively. Singapore, Vietnam, Bali, etc are within a range of 1,000 to 1,500 km from the proposed airport. The Great Nicobar Island is situated at the foot of the Andaman and Nicobar islands and extends from Ranganatha Bay on the east coast to southwards to Galathea Bay and around the corner of Indira Point to Pemayya Bay.

The island of Sumatra is located barely at a distance of 180 km to the south of the Indira point which is also known as the southernmost tip of India. The island covers a total area of approximately 910 sq km with the majority of the island designated as 'Great Nicobar Biosphere Reserve'. The proposed site is located along the sea in between Gandhi Nagar and Shastri Nagar area on the South side of the Island. The site is accessible by a road connecting Galathea Bay to Campbell Bay at a distance of approximately 30 km from Campbell Bay. The island's original inhabitants are the Shompen and Nicobarese tribes.

https://dailypioneer.com/news/great-nicobar-airport-a-boost-to-india-s-defence-connectivity

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China likely loaded over 100 ICBMs in silo fields: Pentagon

Source: Hindustan Times, Dt. 23 Dec 2025

China is likely to have loaded more than 100 intercontinental ballistic missiles across its latest three silo fields and has no desire for arms control talks, according to a draft Pentagon report which highlighted Beijing's growing military ambitions. China is expanding and modernizing its weapons stockpile faster than any other nuclear-armed power, according to the Bulletin of the Atomic Scientists, a Chicago-based non-profit. Beijing has described reports of a military buildup as efforts to "smear and defame China and deliberately mislead the international community."

Last month, US President Donald Trump said that he may be working on a plan to denuclearize with China and Russia. But the draft Pentagon report, which was seen by Reuters, said Beijing did not appear to be interested. "We continue to see no appetite from Beijing for pursuing such measures or more comprehensive arms control discussions," the report said.

In particular, the report said that China had likely put in more than 100 solid-fuelled DF-31 ICBMs in silo fields close to China's border with Mongolia - the latest in a series of silo sites. The Pentagon had previously reported the existence of the fields but not the number of missiles loaded. China's embassy in Washington D.C. said China has "maintained a defensive nuclear strategy, kept its nuclear forces at the minimum level required for national security, and abided by its commitment to a moratorium on nuclear testing."

The draft Pentagon report did not identify any potential target of the reported newly placed missiles. U.S. officials noted that the report could change before it was sent to lawmakers. The report said China's nuclear warhead stockpile was still in the low 600s in 2024, which reflected "a slower rate of production when compared to previous years." But the report added that China's nuclear expansion was ongoing and it was on track to have over 1,000 warheads by 2030. China has said it adheres to a "nuclear strategy of self-defense and pursues a no-first-use policy."

Trump has said he wants the United States to resume nuclear weapons testing, but it is unclear what form that will take. Former U.S. President Joe Biden and Trump, during his first term, sought to engage China and Russia in negotiations on replacing New START with a three-way strategic nuclear arms control treaty.

The wide-ranging Pentagon report detailed China's military buildup and said that "China expects to be able to fight and win a war on Taiwan by the end of 2027." China, which views democratically governed Taiwan as its own territory, has never renounced use of force to "reunify" with the island. Beijing was refining its military options to take Taiwan by "brute force," the report said, adding that one option could include strikes 1,500-2,000 nautical miles from China. "In sufficient volume, these strikes could seriously challenge and disrupt U.S. presence in or around a conflict in the Asia-Pacific region," it added.

https://www.hindustantimes.com/world-news/china-likely-loaded-over-100-icbms-in-silo-fields-pentagon-101766464804549.html

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Science & Technology News

सबसे बड़ा सैटेलाइट इसरो लॉन्च करेगा

Source: NavBharat Times, Dt. 23 Dec 2025

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■ नई दिल्ली: भारतीय अंतरिक्ष एजेंसी ISRO एक बड़ी उपलब्धि हासिल करने जा रहा है। वह अपने भारी-भरकम रॉकेट लॉन्च वीकल मार्क 3 (LVM3) के जरिए अमेरिका की कंपनी एएसटी स्पेस मोबाइल का दुनिया का सबसे बड़ा कमर्शल कम्युनिकेशन सैटलाइट ब्लू बर्ड ब्लॉक-2 बुधवार को लॉन्च करेगा। यह ISRO के LVM3 रॉकेट की छठी सफल ऑपरेशनल उड़ान होगी। खास बात यह है कि यह सैटलाइट लो अर्थ ऑर्बिट में भेजा जाएगा और अब तक का सबसे भारी कमर्शल पेलोड होगा, जिसे LVM3 भारतीय धरती से लॉन्च करेगा।

ब्लू बर्ड ब्लॉक-2 सैटलाइट की सबसे बड़ी खासियत यह है कि यह सीधे मोबाइल फोन तक इंटरनेट और कॉलिंग सुविधा पहुंचाने के लिए बनाया गया है। इस सैटलाइट में 223 वर्ग मीटर का विशाल फेज्ड ऐरे एंटीना लगा है, जो इसे दुनिया का सबसे बड़ा कमर्शल कम्युनिकेशन सैटलाइट बनाता है। इसका मकसद 24 घंटे, 7 दिन हाई-स्पीड सेल्युलर ब्रॉडबैंड सेवा देना है। यह हिमालय जैसे दुर्गम क्षेत्र, महासागरों के बीच के हिस्से में कनेक्टिविटी देगा।

खासियत...

223 वर्ग मीटर का विशाल फेज्ड ऐरे एंटीना लगा है सैटलाइट में

24 X7 हाई-स्पीड सेल्युलर ब्रॉडबैंड सेवा देना है मकसद

अमेरिकी कंपनी का यह सैटलाइट बिना टावर वाले इलाकों में भी इंटरनेट कनेक्टिविटी देगा

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LoI signed to establish Centre of Excellence for CRISPR Innovation and Translation (CoE-CIT)

Source: Press Information Bureau, Dt. 22 Dec 2025

A new Letter of Intent (LoI) has been signed to establish a new Centre of Excellence for CRISPR Innovation and Translation (CoE-CIT) as a dedicated hub to harness cutting-edge CRISPR technologies to facilitate translation of scientific discoveries in a laboratory into real-world clinical applications.

The Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bengaluru an autonomous institute of Department of Science and Technology (DST) and CRISPRBITS Private Limited (CrisprBits) based in Delhi, focused on Biotechnology using CRISPR gene-editing technology for developing affordable diagnostics, has announced the signing of a Letter of Intent (LOI) to jointly establish the CoE-CIT, in a landmark public–private partnership between academia and industry which is among the first of its kind in India.

Prof. Umesh V Waghmare, President, JNCASR and Dr. Vijay Chandru, Co-Founder & CEO, CRISPRBITS Pvt. Ltd.

The CoE-CIT is envisioned to bridge the bench to bed gap leading and have therapeutic impact by combining JNCASR's strengths in fundamental biomedical sciences with CrisprBits' expertise in applied gene-editing and translational platforms. Demonstrating how Indian scientific innovation can be effectively translated into societal and clinical benefit, the CoE will serve as a replicable national model for academic–industry partnerships to strengthen India's biotechnology and innovation ecosystem.

"It is an exciting landmark event for JNCASR to plan this CoE on its campus partnering with CRISPRBITS, known for building intelligent molecular platforms for development of scalable, affordable innovative solutions in health sciences. Synergizing the mutual strengths in genetics, molecular and chemical biology, and computational biology, this unique partnership will open a new route to impact society and national missions," says Umesh Waghmare, President of JNCASR.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=2207454&reg=3&lang=1

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The Tribune
The Statesman
पंजाब केसरी जनसत्ता
The Hindu
The Economic Times
Press Information Bureau
The Indian Express
The Times of India
Hindustan Times
नवभारत टाइम्स
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