

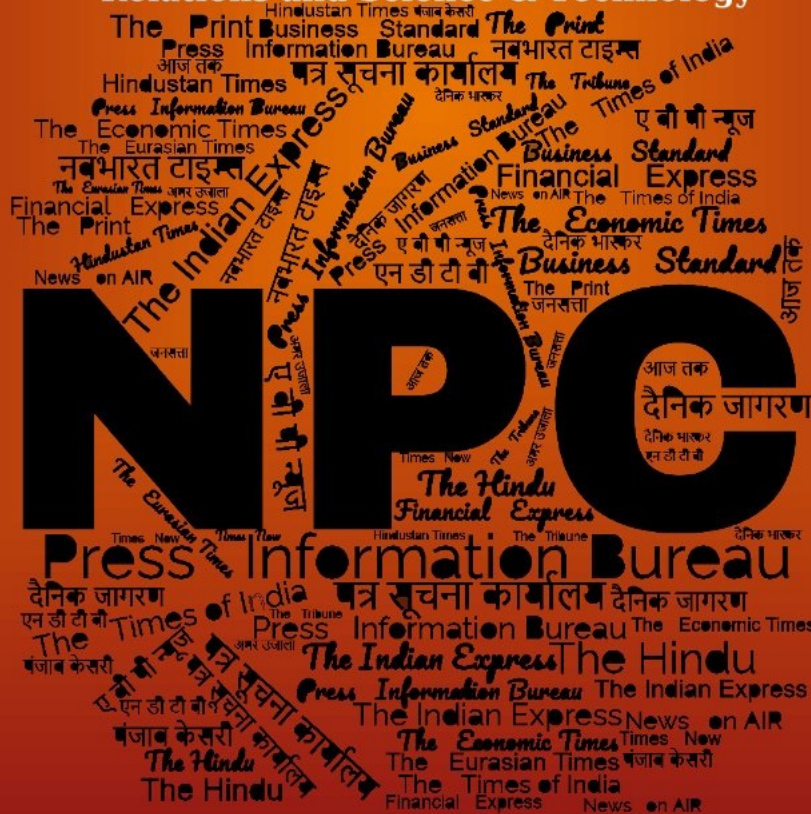
जनवरी  
Jan  
2024

खंड/Vol. : 49 अंक/Issue : 11  
13-15/01/2024

# समाचार पत्रों से चयित 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




रक्षा विज्ञान पुस्तकालय  
Defence Science Library  
रक्षा वैज्ञानिक सूचना एवं प्रलेखन केंद्र  
Defence Scientific Information & Documentation Centre  
मेटकॉफ हाउस, दिल्ली - 110 054  
Metcalf House, Delhi - 110 054

# CONTENTS

S. No.	TITLE	Page No.
<b>DRDO News</b>		<b>1-4</b>
<b>DRDO Technology News</b>		
1.	DRDO conducts successful Flight-Test of New Generation AKASH Missile off Odisha Coast	<i>Press Information Bureau</i> 1
2.	Raksha Rajya Mantri Shri Ajay Bhatt visits DRDO's Dr APJ Abdul Kalam Missile Complex Hyderabad	<i>Press Information Bureau</i> 2
3.	DRDO starts Trials of Light Tank Zorawar, to Hand over Project to Army in Months	<i>India Today</i> 2
4.	DRDO Developed Robotic kit : सेना के लिए वैज्ञानिकों ने बनाई ऐसी अनोखी किट, बिना ड्राइवर चलेगी कार, दुश्मदु न पर करेगी अचूक वार	<i>Navbharat Times</i> 4
<b>Defence News</b>		<b>5-17</b>
<b>Defence Strategic: National/International</b>		
5.	'Operation Sarvashakti': Army's Mega Anti-Terror Campaign in Jammu and Kashmir	<i>India Today</i> 5
6.	INS Cheetah, Guldar and Kumbhir Decommissioned after 40 Years of Glorious Service	<i>Press Information Bureau</i> 6
7.	Launch of 25t Bollard Pull Tug, Bhishm at M/S Titagarh Rail Systems Ltd, Kolkata	<i>Press Information Bureau</i> 7
8.	Chief of Defence Staff (CDS) General Anil Chauhan visited C-DOT	<i>Press Information Bureau</i> 8
9.	"2024 to be Year of Technology Absorption": Army Chief on 76th Army Day	<i>NDTV</i> 9
10.	Indian Army Indigenously Develops end-to-end Secure Mobile Ecosystem SAMBHAV	<i>The Economic Times</i> 10
11.	Army's AI thrust: Biometric Software to help Identify Suspicious Persons	<i>The Tribune</i> 11
12.	Rajnath's Visit to UK: Progress in talks to get Key Tech for Warships	<i>The Indian Express</i> 12
13.	J&K: After 2023 setbacks, Army, police form 'Strategy 2024'	<i>The Tribune</i> 14
14.	India, Saudi Arabia Discuss Naval Cooperation, Defence Production Opportunities	<i>The Hindu</i> 15
15.	Game changer! X-59 'quiet' Supersonic Aircraft Unveiled by NASA, Lockheed Martin	<i>WION</i> 16
16.	11 Lakh Pages of Army history to be Digitised	<i>The Tribune</i> 17
<b>Science &amp; Technology News</b>		<b>18-24</b>
17.	Relaxed Assumptions can Throw Better Light on Cold Dark Matter of the Universe	<i>Press Information Bureau</i> 18
18.	Indian Delegation visits Hawaii to discuss progress of TMT	<i>Press Information Bureau</i> 19
19.	IISF 2023 presents Vigyanika, the Science Literature Festival	<i>Press Information Bureau</i> 20
20.	Call for Nominations announced under Rashtriya Vigyan Puraskar 2024 in the field of Science, Technology, and Innovation	<i>Press Information Bureau</i> 21

21.	ISRO eyes Feb Launch for key INSAT-3DS satellites	<i>Hindustan Times</i>	22
22.	Why ISRO may use Russia-made Spacesuits for Gaganyaan Astronauts instead of India-made IVA suits?	<i>Mint</i>	23





**Press Information Bureau  
Government of India**

**Ministry of Defence**

*Fri, 12 Jan 2024*

## **DRDO conducts successful Flight-Test of New Generation AKASH Missile off Odisha Coast**

Defence Research and Development Organisation (DRDO) conducted a successful flight-test of the New Generation AKASH (AKASH-NG) missile from the Integrated Test Range (ITR), Chandipur off the coast of Odisha at 1030 hrs on January 12, 2024. The flight-test was conducted against a high-speed unmanned aerial target at very low altitude. During the flight-test, the target was successfully intercepted by the weapon system and destroyed. It has validated the functioning of the complete weapon system consisting of the missile with indigenously developed Radio Frequency Seeker, Launcher, Multi-Function Radar and Command, Control & Communication system.

The system performance was also validated through the data captured by a number of Radars, Telemetry and Electro Optical Tracking System deployed by ITR, Chandipur. The flight-test was witnessed by senior officials from DRDO, Indian Air Force (IAF), Bharat Dynamics Limited (BDL) and Bharat Electronics Limited (BEL). The AKASH-NG system is a state-of-the-art missile system capable of intercepting high speed, agile aerial threats. The successful flight test has paved the way for User trials.

Raksha Mantri Shri Rajnath Singh has complimented the DRDO, IAF, PSUs and the Industry for the flight-test. The successful development of the system will further enhance the air defence capabilities of the country, he said.

Secretary Department of Defence R&D and Chairman DRDO Dr Samir V Kamat also congratulated the teams associated with the successful flight test of AKASH-NG.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1995445>



**Press Information Bureau  
Government of India**

**Ministry of Defence**

*Sun, 14 Jan 2024*

## **Raksha Rajya Mantri Shri Ajay Bhatt visits DRDO's Dr APJ Abdul Kalam Missile Complex Hyderabad**

Raksha Rajya Mantri Shri Ajay Bhatt visited DRDO's Dr APJ Abdul Kalam Missile Complex Hyderabad on January 14, 2024. He reviewed the ongoing missile technologies and related Programmes at Research Centre Imarat (RCI). Sri U Raja Babu, Director General, Missiles & Strategic Systems [DG(MSS)] briefed the Raksha Rajya Mantri on various technological development. Lab Directors of DRDL, ASL & RCI, explained critical systems and technologies developed by them to RRM.

Speaking on occasion, RRM said: "Knowledge and infrastructure base of the DRDO needs to be tapped by the MSME, private industries, which in turn will lead to the establishment of a self-reliant defence industrial ecosystem in our country".

He also said that DRDO should emerge as world leader in exporting weapon systems to other nations. He emphasized that defence today is no longer limited to the land, sea or sky but encompasses space as well.

Raksha Rajya Mantri witnessed the display of the missile systems and the enabling critical technologies indigenously developed by the DRDO establishments.

He congratulated all DRDO scientists for the recent successful missions including AGNI-PRIME, AKASH, AKASH-NG, VSHORADS, PRALAY, etc. He complimented the Dr APJ Abdul Kalam Missile Complex for indigenizing various state-of-the-art technologies and for strengthening the defence industrial base in the country in line with the national goal "Atmanirbhar Bharat".

<https://pib.gov.in/PressReleasePage.aspx?PRID=1996022>

**INDIA  
TODAY**

*Sat, 13 Jan 2024*

## **DRDO starts Trials of Light Tank Zorawar, to Hand over Project to Army in Months**

In another push for the indigenous defence sector, the Defence Research and Development Organisation (DRDO), which is the research and development wing of the Defence Ministry, has started



internal trials for the light tank 'Zorawar'. Light in weight, and easier mobility, these tanks of the Army are set to address defence capabilities in high-altitude areas, including the Ladakh sector.

DRDO will hand the project over to the Army for further trials within the next four months. The project also involves a private player, Larsen & Toubro (L&T).

Sources said that the tank's internal trials have begun, aiming for completion by the end of March or mid-April, paving the way for subsequent user trials with the Army.

The light tank, part of a 59-tank order to DRDO and its private sector development and production partner, addresses the Indian Army's need to enhance mobility and manoeuvring capabilities in the Ladakh sector. Facing a similar deployment of Chinese light tanks in large numbers, the Indian Army sought to develop comparable capabilities, a project recently approved by the Defence Acquisition Council.

Collaborating with L&T under the Make in India initiative, DRDO is working on building a 25-tonne light tank capable of swift movement in high mountainous terrain.

One of the crucial features in consideration is an active protection system designed to shield combat vehicles from anti-tank guided missiles and projectiles.

The Army also aims for the light tank to be amphibious, allowing deployment in riverine regions, including the Pangong Tso Lake in eastern Ladakh, where the Indian forces have countered Chinese light tanks.

<https://www.indiatoday.in/india/story/armys-light-tank-zorawar-project-undertaken-by-drdo-initial-trials-underway-2488107-2024-01-13>

## नवभारत टाइम्स

*Fri, 12 Jan 2024*

### **DRDO Developed Robotic kit : सेना के लिए वैज्ञानिकों ने बनाई ऐसी अनोखी किट, बिना ड्राइवर चलेगी कार, दुश्मदु न पर करेगी अचूक वार**

पुणे के पाषाण इलाके में दो दिवसीय प्रदर्शनी का आयोजन किया गया । जिसमें रक्षा उत्पाद बनाने वाली तमाम स्टार्टअप्स ने भाग लिया। इस प्रकार डीआरडी ओ भी इस प्रदर्शनी का हिस्सा बनी । इस दौरान डीआरडीओ ने एक विशेष किट की प्रदर्शनी की, जिसके जरिये कार को रिमोट द्वारा चलाया जा सकता है। खास बात यह है कि इस किट को किसी भी कार में लगाया जा सकता है।

निर्माण विशेष रूप से आर्मर्ड फोर्सज के सामने आने वाली चुनौतियों के मद्देनजर डिज़ाइन किया गया है। क्योंकि कार में किट लगाने के बाद कार पूरी तरह से स्वचालित और मानव रहित हो जा ती है।

आवश्यकतानुसार बंदूकेंदूकें और रॉकेट लॉन्चर भी लगाए जा सकते हैं जरूरत पड़ने पर कार की छत पर पेलोड स्थापित किया जा सकता है और आर्म्ड फो र्सेज इसका उपयोग बेहद संवेदनशील स्थितियों में कर सकती है। जिस पर बंदूकेंदूकें, रॉकेट लॉन्चर के साथ साथ बहुत कुछ स्थापित किया जा सकता है। डीआरडी ओ द्वारा पाषाण इलाके में आयोजित प्रदर्शनी में यह कार आकर्षण का केंद्र बनी हुई है। प्रदर्शनी का उद्घाटन घाटन गुरुवार को किया गया। यह प्रदर्शनी केवल आमंत्रित लोगों के लिए है।

किट लगाने के बाद कार पूरी तरह से हो जाती है स्वचालित डीआरडीओ में अनुसंधान के लिए विविध शाखाएं हैं। अहमदनगर के वाहन अनुसंधान विभाग ने यह रोबोटिक किट बना ने में सफलता हासिल की है। खास बात यह है कि कार में इस किट को लगा ने के बाद स्टेरिंगरिं, क्लच, एक्सीलेटर, ब्रेक आदि सिस्टम पूरी तरह से स्वचालित हो जाते हैं। किट लगाने के बाद इसका नियंत्रण रिमोट सेंसर द्वारा लेलिया जाता है।

जिसके बाद यह कार पूरी तरह से मानव रहित हो जाती है। कार के ऊपर मिसाइल, बंदूकेंदूकेंरखी जा सकती हैं और सामने वाले दुश्मदु न पर सटीक निशाना लगा कर उन पर गोली चलाई जा सकती है। इस प्रदर्शनी में देशभर के विभिन्न शहरों से रक्षा उत्पाद बनाने वाले स्टार्टअप की प्रदर्शनी का उद्घाटन आर्मा मेंट एंड कॉम्बैट इंजीनियरिंगरिं सिस्टम के महानिदेशक डॉ . शैलेन्द्र गाडे ने किया । इस दौरान डीआरडीओ के निदेशक डॉ . मकरंद जोशी मौजूद रहे।

मनीष साहू (वैज्ञानिक, वाहन अनुसंधान विभाग, डीआरडीओ, अहमदनगर) साहू ने बताया , किट को वाहन अनुसंधान विकास प्रयोगशाला, अहमदनगर में विकसित किया गया है। भारत में यह पहली बार बनाया गया है। पेटेंट के लिए आवेदन किया गया है, जिसकी प्रतीक्षा की जा रही है।

इसे रोबोटिक कार किट कहा जाता है, यह सैकड़ों माइक्रो कंट्रोलर लगाए गए हैं। इसमें लगा कैमरा 360 डिग्री एंगल से कार के ब्रेक, एक्सीलेटर और स्पीड की मॉनिटरिंगरिं करता रहता है। इसका उपयोग युद्ध जैसी आपात स्थिति में कि या जा सकता है। फिलहाल इसे सिर्फ सेना के लिए डिजाइन किया गया है।

<https://www.enavabharat.com/state/maharashtra/pune/drdo-developed-robotic-kit-for-indian-army-to-drive-automated-and-unmanned-car-856168/>



*Sat, 13 Jan 2024*

### **'Operation Sarvashakti': Army's Mega Anti-Terror Campaign in Jammu and Kashmir**

The Indian Army has decided to launch a large-scale anti-terror operation, Operation Sarvashakti, in Jammu and Kashmir, following multiple recent terror attacks in the Poonch and Rajouri regions.

Operation Sarvashakti will be launched on both sides of the Pir Panjal ranges, with security forces carrying out actions against terrorists under close monitoring from the Army headquarters and Northern Command, according to top sources in the security establishment who informed India Today.

The Indian Army, state agencies, and intelligence agencies will be working actively in close coordination with each other to "thwart Pakistani designs", officials added.

The decision came after Union Home Minister Amit Shah conducted a top-level review meeting for security in Jammu and Kashmir with multiple stakeholders.

The Rajouri-Poonch area witnessed increased terror activity last year with multiple terror strikes.

Highlighting the "rising terrorism" in the Pir Panjal Range as an "issue of concern," Army Chief Gen Manoj Pande recently stated that proxy terror groups operating there continue to receive support from across the Line of Control (LoC), where the support infrastructure for terrorists remains intact.

"I will not get into what has gone wrong; rather, I will say what it is that we are doing," Pande said during his customary media briefing ahead of Army Day on January 15.

Better synergy with other agencies, including the police, and the use of technology for advantageous outcomes are also areas the army is working on, he added.



On December 21, Army vehicles navigating a blind curve at Dhatyar Morh between Dera ki Gali (DKG) area and Bulfiaz came under heavy fire from terrorists. Four army soldiers were killed in the ambush. A massive combing operation was launched following the incident.

In the latest incident in Poonch district on Friday, "suspected terrorists" fired at a convoy of Army vehicles.

<https://www.indiatoday.in/india/story/operation-sarvashakti-will-be-launched-in-jammu-and-kashmir-soon-poonch-rajouri-2488314-2024-01-13>



**Press Information Bureau**  
**Government of India**

**Ministry of Defence**

*Sat, 13 Jan 2024*

## **INS Cheetah, Guldar and Kumbhir Decommissioned after 40 Years of Glorious Service**

Indian Navy Ships Cheetah, Guldar and Kumbhir were decommissioned on 12 Jan 2024 after rendering four decades of glorious service to the nation. The decommissioning event was conducted at Port Blair in a traditional ceremony wherein the National Flag, the Naval Ensign and Decommissioning Pennants of the three ships were lowered for the last time, at sunset.

Cheetah, Guldar and Kumbhir were built at Gdynia Shipyard, Poland as Polnocny class Landing Ships and were commissioned into the Indian Navy in 1984, 1985 and 1986 respectively, in presence of Shri S K Arora (Cheetah and Guldar) and Shri A K Das (Kumbhir) then Ambassadors of India to Poland. The Commanding Officers of the three ships were Cdr V B Mishra, Lt Cdr SK Singh and Lt Cdr J Banerjee respectively. During her initial years, Cheetah was based at Kochi and Chennai for brief periods, and Kumbhir and Guldar were based at Visakhapatnam.

The ships were subsequently re-based at Andaman and Nicobar Command, where they served till their decommissioning. These ships were in active Naval service for nearly 40 years, and collectively traversed about 17 lakh nautical miles whilst being at sea for over 12,300 days. As the amphibian platforms of the Andaman and Nicobar Command, these ships have conducted over 1300 beaching operations for landing of army troops ashore.

During their illustrious journeys, these ships participated in numerous maritime security missions and Humanitarian Assistance and Disaster Relief operations. Notable amongst them are their role during Operation Aman as part of IPKF operations and Operation Tasha a joint operation carried out between Indian Navy and Indian Coast Guard in May 1990 to control smuggling of arms and ammunition and illegal immigration across Indian and Srilankan border and made stellar contributions in relief operations post 1997 cyclone off Sri Lanka and the 2004 Indian Ocean Tsunami.

Indian Naval Ships Cheetah, Guldar and Kumbhir have left an indelible mark on the maritime landscape and their decommissioning marks the end of a significant chapter of the Indian Navy's history.

Air Marshal Saju Balakrishnan, AVSM, VM, Commander-in-Chief Andaman and Nicobar Command (CINCAN), Vice Admiral Tarun Sobti, AVSM, VSM, Deputy Chief of Naval Staff, Flag Officers, former Commanding Officers and commissioning crew of the three ships attended the ceremonies at Port Blair. The event was also unique since three warships of the same class were decommissioned simultaneously on a single day.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1995782>



**Press Information Bureau**  
**Government of India**

**Ministry of Defence**

*Sun, 14 Jan 2024*

## **Launch of 25t Bollard Pull Tug, Bhishm at M/S Titagarh Rail Systems Ltd, Kolkata**

25T Bollard Pull (BP) Tug, Bhishm was launched by Cmde S Sreekumar, Warship Production Superintendent (Kolkata) on 14 Jan 24 at M/s Titagarh Rail Systems Ltd (M/s TRSL), Kolkata. This Tug is a proud flag bearer of "Make in India" initiative of Govt of India.

Contract for construction and delivery of six 25T BP Tugs was concluded with M/s TRSL, Kolkata in consonance with "Aatmanirbhar Bharat" initiative of the Government of India. These Tugs are being built under the classification rules of Indian Register of Shipping (IRS).

The availability of Tugs will provide impetus to Operational commitments of *IN* by facilitating assistance to Naval ships and submarines during berthing and un-berthing, turning and manoeuvring in confined waters.

The Tugs will also provide afloat firefighting assistance to ships alongside, at anchorage and will also have capability to conduct limited Search and Rescue Operations.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1996014>



**Press Information Bureau  
Government of India**

**Ministry of Communications**

*Fri, 12 Jan 2024*

## **Chief of Defence Staff (CDS) General Anil Chauhan visited C-DOT**

C-DOT showcased indigenously developed advanced security solution and other going technology programs to CDS

General Chauhan appreciated the R&D efforts of C-DOT's research community

CDS stressed for a larger collaboration between C-DOT and defence forces for development of futuristic and cutting-edge secured telecom solutions

Chief of Defence Staff (CDS) General Anil Chauhan visited Centre for Development of Telematics (C-DOT) Delhi Campus today, a premier Telecom R&D centre of the Department of Telecommunications, Ministry of Communications, Government of India. The C-DOT is actively working in developing indigenous, secured telecom solutions, for the needs of the country in line with Atmanirbhar Bharat vision of the government.

CEO, C-DOT, Dr Rajkumar Upadhyay, gave a detailed presentation to CDS General Anil Chauhan and other senior officers from the Armed forces on diverse Telecom product portfolio/solutions from key telecom security areas such as security operation centre (real-time detection of malware in a network), enterprise security centre (real-time detection and mitigation of malicious threats and attacks at an enterprise level covering all end points), Quantum key distribution, Post Quantum Cryptography.

Other solutions such as 4G core & 4G RAN, 5G core & 5G RAN, Disaster management solution using CAP, Optical transport & access solution, switching & routing solution, etc were also discussed. This was followed by lab demonstrations of these solutions highlighting the use cases.

General Chauhan interacted with engineers of C-DOT and stressed the need of a better synergy between C-DOT and the three wings of Indian Armed Forces for integration of futuristic and advanced secured communication solutions in the wake of changing landscape from network centric to data centric in modern warfare.

CEO C-DOT, Dr. Upadhyay assured CDS of C-DOT's commitment towards developing state-of-the-art security solutions as per the needs and requirements of Indian Armed Forces.

General Anil Chauhan stated, "Our country is in the midst of transformation, we are moving on the path of digitization, all our actions are striving towards indigenisation." "The visit to C-DOT was a

revelation, I go back confident of our nations ability to protect our communication system and cyber space, he added.

The C-DOT thanked the entire defence team, led by CDS General Chauhan and expressed enthusiasm and reiterated its firm commitments towards taking this engagement further with a resounding success.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1995457>



*Mon, 15 Jan 2024*

## **"2024 to be Year of Technology Absorption": Army Chief on 76th Army Day**

General Manoj Pande, Chief of Army Staff on Monday extended his greetings on the occasion of 76th Army Day.

In his address to the troops, General Manoj Pandey paid homage to soldiers who laid down their lives in service to the nation.

"On the occasion of Army Day 2024, I convey my felicitations and warm wishes to all ranks of the Indian Army, civilian employees, Veterans and their families. We solemnly remember and pay homage to our comrades who have laid down their lives in service of the nation. Their supreme sacrifice shall always inspire us," he said.

"The Indian Army has a vital role to play in ensuring a stable and secure environment so that the nation's progress continues unabated. Our resolve towards that must remain robust and grow stronger with each passing day. I urge each member of the 'Olive Green' fraternity to continue with an unwavering commitment to counter security threats to the nation," he added.

The Chief of Army Staff further asserted that the Indian Army will observe the year 2024 as the 'Year of Technology Absorption' -- a theme that underscores the Army's focus and efforts to leverage technology as a catalyst for transformative change.

"The character of warfare continues to change. To prepare ourselves for the future, we set into motion a holistic transformation process last year. We have made good progress and many milestones have been achieved. Our capability development endeavours stand on the edifice of Atmanirbharta, to which we are firmly committed. The transition towards becoming a modern, agile, adaptive and technology-enabled future-ready force shall continue as part of the Transformation Roadmap," General Manoj Pande said.

He further added that the Army's responsibility towards the veterans, Veer Naris and their families, remains a sacred commitment, adding, "Endeavours to augment welfare initiatives, proactively

reach out to them and address their grievances must remain a focus area for commanders at all levels."

"The Indian Army enjoys a distinct stature in the national mind space. I am sanguine that we shall forever remain steadfast in our resolve to uphold the trust reposed in us, by the nation. Let us re-dedicate ourselves to the service of the nation, in the true spirit of our core ethos of 'Naam', 'Namak' our Nishaan'. 'Jai Hind'," he added.

<https://www.ndtv.com/india-news/army-chief-general-manoj-pande-on-76th-army-day-says-2024-to-be-year-of-technology-absorption-4864928>

## THE ECONOMIC TIMES

*Fri, 12 Jan 2024*

### **Indian Army Indigenously Develops end-to-end Secure Mobile Ecosystem SAMBHAV**

In line with the ethos of 'Atmanirbhar Bharat', the Indian Army has indigenously developed an "end-to-end secure mobile ecosystem" to provide secure communication with instant connectivity on the move, according to officials. The ecosystem -- SAMBHAV (Secure Army Mobile Bharat Version) -- operates on the state-of-the-art contemporary 5G technology and will represent a "significant leap forward in India's defence capability", a senior official said. It has been developed in close collaboration with national centres of excellence from the academia and industry. "Mobile networks are prone to eavesdropping and therefore information security of mobiles is at risk of being compromised. An end-to-end secure mobile ecosystem which is network-agnostic has been developed to provide secure communication with instant connectivity on the move," the official said.

This leverages the potential of indigenous public cellular networks in the country and the ecosystem has "5G -ready handsets using multi-tier encryption", the official added. This aligns with the government of India's efforts towards "dual-use infrastructure" and it also manifests "civil-military fusion" in the field of emerging technology, the official sources said. In the context of the SAMBHAV ecosystem, "35,000 sets are to be configured in two phases, with initial 2,500 sets to be configured by January 15, and the remaining by May 31 this year," they added. The indigenously developed secure applications and operating system mark a "significant step towards Atmanirbhar Bharat", the official said. SAMBHAV will have multi-layered encryption with a pan-India secure ecosystem. It will ride on a commercial network with inherent security, he added. Officials also said that the Indian Army today is "undergoing transformation" and is expected to achieve "significant capabilities in cyberspace". "A robust cyber defence triad encompassing people, process and technology has been established by the Indian Army," the officials said. Conventional capabilities are no longer the only measure of military prowess. State and non-state actors are developing means to bridge conventional asymmetries across the world, they said. Cyberspace has emerged as one of the "principle domains of hybrid warfare" and the proliferation of networks and IT infra-

structure in the Indian Army has "increased manifold" which presents both opportunities and threats across the continuum of operations, the officials said.

Command Cyber Operations Support Wings (CCOSWs) are being established, which are "special sub-units" to augment cyber capability. Cyber capability is being enhanced and integrated at all levels with defence cyber agencies at strategic level, while CCOSWs will be functional at "operational and tactical levels", the sources said.

Six CCOSWs are being established for all commands. The personnel will be given specialist training and undergo validation exercises, they added.

<https://economictimes.indiatimes.com/news/defence/indian-army-indigenously-develops-end-to-end-secure-mobile-ecosystem-sambhav/articleshow/106783207.cms?from=mdr>

# The Tribune

Sun, 14 Jan 2024

## Army's AI thrust: Biometric Software to help Identify Suspicious Persons

The Army has adopted artificial intelligence for two separate projects — to identify suspicious persons within a crowd, and to collate intelligence and ensure quick real-time decision-making on ground.

The first one, called 'Seeker 2.0', is an artificial intelligence-based biometric, identification and analysis system. "This can provide information on civilian population in high security or threat zones while restricting actions of anti-national elements," states the Army's list of "key initiatives" adopted for transforming itself into a tech-backed force.

Army Chief Gen Manoj Pande had on January 11 said, "2024 will be a year of technology absorption."

The system can be employed for ensuring high-level security of critical military and civilian establishments and also at border crossings to identify suspicious people based on their biometrics.

It has been developed by the Army as a self-contained, state-of-the-art "made in India" system.

The AI-powered deep-tech analytic module of 'Seeker 2.0' enables processing of data from various sources, identify patterns and predict threats aided by accurate information collection and collation. An AI-backed deep-learning algorithm allows the 'Seeker 2.0' to function without the Internet and operate in wide range of environmental conditions.

The system has been tested and is now "operationally deployed", says the Army.

The second project — 'Bahirji' — is an AI-based information collation and analysis software. "It has been developed by the Army as a cutting-edge solution to challenges posed by labour-intensive and time-consuming manual intelligence gathering," the Army said.



The advanced software has been named after Bahirji Naik, who was a Maratha spy and head of the intelligence department in Shivaji's army.

The innovation aims to achieve deeper situational insights by leveraging data.

“Bahirji revolutionises military intelligence by automating data extraction, facilitating real-time analysis and providing critical insights from raw inputs,” the Army said.

The system enhances data-driven decision-making abilities at the ground level for commanders and it can seamlessly integrate with the Geographic Information System to generate informative heatmaps for enhanced situational comprehension.

It can provide output in text format for predictive analysis, forecasting, validation of plans, anomaly detection and summarisation. “Bahirji stands ready for deployment,” said the Army.

#### **‘Seeker 2.0’**

- The artificial intelligence-based biometric, identification and analysis system can provide information on civilian population in high security or threat zones while restricting actions of anti-national elements
- Can be used for ensuring high-level security of critical military and civilian establishments by identifying suspicious people based on their biometrics
- AI-backed deep-learning algorithm allows Seeker 2.0 to function without the Internet

#### **‘Bahirji’: Named after Maratha spy**

- Named after Bahirji Naik, who was a Maratha spy and head of the intelligence department in Shivaji's army
- Aims to achieve deeper situational insights by leveraging data
- Can extract data, facilitate real-time analysis and provide critical insights from raw inputs
- Capable of providing output in text format for predictive analysis, forecasting, validation of plans, anomaly detection and summarization.

<https://www.tribuneindia.com/news/india/armys-ai-thrust-biometric-software-to-help-identify-suspicious-persons-581233>



*Sat, 13 Jan 2024*

## **Rajnath's Visit to UK: Progress in talks to get Key Tech for Warships**

Discussions on getting the electric propulsion technology from the United Kingdom to meet the future needs of Indian warships are learnt to have seen a significant forward movement during Defence Minister Rajnath Singh's two-day visit to the country this week.

As per sources in the government, discussions on getting this key technology from the UK are learnt to have featured at multiple levels during Singh's meeting with the UK's Defence Secretary Grant Shapps, Foreign Minister Lord David Cameron and Prime Minister Rishi Sunak on Wednesday.

They said one of the possibilities being explored is a government-to-government agreement on getting this technology from the UK that will power bigger warships of the Indian Navy.

Indian warships at present do not have electric propulsion systems. They are currently powered by diesel engines, gas or steam turbines. The Queen Elizabeth Class aircraft carriers of the UK Royal Navy are integrated full electric propulsion vessels.

Both countries have set up a joint electric propulsion working group that met in the UK in February and a delegation met again on Royal Navy frigate HMS Lancaster when she made port call at Kochi in March last year.

The joint working group on India-UK electric propulsion capability partnership met again in November last year to discuss helping India develop maritime electric propulsion technology for its future warships.

Sources said this possibility was further discussed during the Defence Minister's visit to the UK.

If discussions go ahead, the UK will have to send a formal proposal to India on the agreement between the two for developing the electric propulsion system, since it will involve other aspects like training, equipment and infrastructure. Top sources in the government told The Indian Express that this technology will apply to bigger Indian warships with a displacement of over 6,000 tonnes and thus will be first tested on Landing Platform Docks and next generation destroyers.

In April last year, UK's Chief of Defence Staff Admiral Sir Tony Radakin had said India and the UK are having detailed discussions over sharing technical know-how and experience on maritime electric propulsion systems to meet future requirements of Indian warships.

Senior government officials told The Indian Express that the focus of the Defence Minister's two-day visit to the UK was defence technology.

His discussions with the UK government at multiple levels highlighted a three-pronged strategy to take the India-UK relations forward, including defence, trade and technology.

In his meeting with Sunak, Singh had highlighted the recent enhancement in bilateral defence engagements, including joint exercises, training, capability building, increased interoperability, military-to-military ties especially in the maritime domain as well as the efforts to enhance defence industrial cooperation, including in the technology domain.

He had also spoken about his positive interactions with the UK defence industry and the new positive energy in the bilateral defence relationship.

In a statement, the Defence Ministry said Sunak had expressed hope that the ongoing Free Trade Agreement (FTA) negotiations could be brought to a successful conclusion soon, while underlining the UK's keenness to strengthen the defence and security pillars of bilateral relationship, including through government backing for stronger business and technology partnerships with Indian counterpart entities.

During his meeting with the British foreign secretary, there were discussions on the UK government's desire to collaborate with India in the defence areas.

<https://indianexpress.com/article/india/rajnaths-visit-to-uk-progress-in-talks-to-get-key-tech-for-warships-9107368/>

# The Tribune

*Sat, 13 Jan 2024*

## **J&K: After 2023 setbacks, Army, police form 'Strategy 2024'**

In a high-level meeting of various security and intelligence agencies after an ambush by ultras near Dera ki Gali in Surankote of Poonch on December 21 last year in which four soldiers were killed, the strategy to revitalise operations against terrorists in Rajouri and Poonch region was discussed on Friday.

Northern Command Chief Lt Gen Upendra Dwivedi, held a meeting with senior officials of security forces. He also visited forward areas in the Rajouri sector to review the operational preparedness in light of the prevailing security situation.

A comprehensive discussion was also carried out at Rajouri with the officers of counter insurgency Romeo Force, Delta Force and Ace of Spades Division on the operational dynamics of 2023 and the prevailing security situation along the Line of Control and the hinterland.

“Reviewing the complete pattern of terrorism, the Army Commander underscored the need for a deep understanding of the evolving landscape. He also outlined the ‘Strat 24’ for operational focus in 2024 to defeat the inimical designs of our adversary and sponsored terrorists,” Lt Col Suneel Bartwal, PRO Defence, said.

The Army suffered major setbacks last year as 20 soldiers lost their lives in different operations in Rajouri and Poonch. Nine soldiers died in two ambushes – on April 20 and December 21 - by terrorists in Poonch district which raised serious questions on the intelligence network of the police and Army.

Northern Command Chief chaired a security review meeting wherein synergy among security forces was discussed. DGP J&K, RR Swain, ADG Law and Order, Vijay Kumar, ADGP Anand Jain and IG CRPF Sanjeev Khirwar took part in the meeting and discussed revitalisation of operations planned for 2024.

“All stakeholders assured to work in synergy to achieve the desired end state, eradicating roots of terrorism in the Poonch – Rajouri area,” said the PRO.

The Army has also adopted Topa Peer village in Bafliaz as a ‘model village’ from where three civilians who were picked up by Army for questioning in December 21 ambush died. The Army Commander appreciated the outreach by the Army formation for the initiative of adopting Topa Peer as a model village under Sadbhavana scheme. The Army Commander emphasised that this endeavour

must integrate the aspirations of the locals and provide comprehensive socio-economic development of the village.

<https://www.tribuneindia.com/news/j-k/after-2023-setbacks-army-police-form-strategy-2024-580718>



*Fri, 12 Jan 2024*

## **India, Saudi Arabia Discuss Naval Cooperation, Defence Production Opportunities**

India and Saudi Arabia discussed ways to enhance navy-to-navy cooperation, joint training and opportunities for joint ventures in defence production, Chief of Staff, Royal Saudi Naval Forces Admiral Fahad Abdullah S Al-Ghofaily held discussion with top military brass on his four-day visit. On Thursday, he held talks with Navy Chief Admiral R. Hari Kumar and Chief of Defence Staff Gen Anil Chauhan.

“Discussions held on issues of mutual strategic interests, bilateral defence cooperation, opportunities for joint ventures in defence production and technology collaboration and also joint military training, duly affirming stronger ties between both nations,” the Integrated Defence Staff said on social media on the discussions between Gen Chauhan and Adm Al-Ghofaily.

Adm Al-Ghofaily, is on a four day official visit to India from January 10 to 13

In discussions with Adm. Kumar the two discussed collaborative mechanisms and measures to further strengthen Navy to Navy cooperation, the Navy said in a statement. “The extant visit by the Chief of Staff, Royal Saudi Naval Forces is aimed to increase naval cooperation between the two navies and has renewed the sense of commitment of two friendly maritime neighbours to address shared maritime challenges in the Indian Ocean Region (IOR),” it stated.

Earlier on Thursday, he was received with a ceremonial Guard of Honour at the South Block lawns.

Indian Navy cooperates with Royal Saudi Naval Force through various initiatives, which include operational interactions such as bilateral naval exercise Al Mohed Al Hindi, training and other maritime avenues. Indian Navy ships have been regularly undertaking port calls at various ports of Saudi Arabia. Indian Navy has also been interacting with Royal Saudi Naval Force in various multilateral fora – Ex Milan, Indian Ocean Naval Symposium,, Combined Maritime Forces and Djibouti Code of Conduct - Jeddah Amendment (DCoC-JA), where both navies have been supporting each other to supplement maritime security in the region, the Navy stated.

During this visit, Adm Al-Ghofaily would also visit the Navy’s Information Fusion Centre for IOR at Gurugram and the Southern Naval Command at Kochi.

<https://www.thehindu.com/news/national/india-saudi-arabia-discuss-naval-cooperation-defence-production-opportunities/article67733808.ece>



*Sat, 13 Jan 2024*

## **Game changer! X-59 'quiet' Supersonic Aircraft Unveiled by NASA, Lockheed Martin**

Perhaps, the time to fly in a commercial flight capable of surpassing the speed of sound is not too far away. NASA, in collaboration with Lockheed Martin, officially revealed its X-59 quiet supersonic aircraft on Friday (Jan 12), opening the door of potential to a new era of commercial aircraft. The unique experimental airplane will collect data and "will help change the way we travel, bringing us closer together in much less time."

"The aircraft is scheduled for its inaugural flight later this year, followed by its first quiet supersonic flight," NASA said in a statement.

NASA Deputy Administrator Pam Melroy expressed her enthusiasm, stating, "This is a major accomplishment made possible only through the hard work and ingenuity from NASA and the entire X-59 team. In just a few short years, we've gone from an ambitious concept to reality."

The aircraft was showcased during a ceremony at Lockheed Martin Skunk Works' facility in Palmdale, California.

Presently, rules prohibit commercial supersonic flight over land because of noise pollution, safety concerns and other environmental issues. The X-59 plays a central role in NASA's Quesst mission and will now help in providing data to reconsider these regulations.

Bob Pearce, associate administrator for aeronautics research at NASA Headquarters, highlighted the ambitious nature of Quesst. He said, "NASA will share the data and technology we generate from this one-of-a-kind mission with regulators and with industry."

With the completion of the rollout, the Quesst team will proceed to integrated systems testing, engine runs, and taxi testing for the X-59.

John Clark, vice president and general manager at Lockheed Martin Skunk Works, praised the collaborative effort, saying, "Across both teams, talented, dedicated, and passionate scientists, engineers, and production artisans have collaborated to develop and produce this aircraft. We're honored to be a part of this journey to shape the future of supersonic travel over land alongside NASA and our suppliers."

### **What are the features of X-59?**

The X-59 has some amazing features that enable quiet supersonic flight. It measures 99.7 feet long and 29.5 feet wide. The aircraft's thin, tapered nose, which accounts for almost a third of its length, breaks up shock waves. It also prevents the typical sonic boom associated with supersonic flight.

The cockpit, located almost halfway down the aircraft, lacks a forward-facing window.

So what replaces the window?

Instead, the Quesst team devised the eXternal Vision System, incorporating high-resolution cameras feeding a 4K monitor in the cockpit. NASA statement said, "The Quesst team also designed the aircraft with its engine mounted on top and gave it a smooth underside to help keep shockwaves from merging behind the aircraft and causing a sonic boom."

<https://www.wionews.com/science/game-changing-x-59-quiet-supersonic-aircraft-unveiled-by-nasa-lockheed-martin-679572>

# The Tribune

*Sat, 13 Jan 2024*

## **11 Lakh Pages of Army history to be Digitised**

With several tales of military valour lying buried under inaccessible records, the Army has rolled out a project in which military history will be digitally archived and made available in an easy-to-access format at two locations in the country.

Nearly 11 lakh pages and 700 hours of audio-video content related to declassified records from the 1948 Jammu and Kashmir conflict, 1961 Goa Liberation (Operation Vijay) and India-Pakistan Wars of 1965 and 1971 would be digitised, the Army said. These voluminous records are held with over 1,300 units, Army formations, regimental centres and military museums in the form of battle memoirs.

Once these reports and audio-visual films are curated, digitised and preserved, these will be available at "digital archive kiosk" created at think-tank United Services Institute of India, New Delhi.

Subsequently, another kiosk will be established at the upcoming history cell of Army War College, Mhow, Madhya Pradesh. These kiosks will be accessible to researchers, academicians and scholars in an interactive webpage format.

However, this does not mean that records like the Kargil conflict and the dramatic capture of Siachen Glacier in 1984 will be available as these have not been declassified by the Ministry of Defence (MoD). In June 2021, the MoD approved a policy on archiving, declassification and compilation and publication of histories of wars and military operations. The requirement of having war histories written with a clear-cut policy on declassification of war records was recommended by the Kargil Review Committee headed by K Subrahmanyam and also by a committee headed by former Defence Secretary NN Vohra.

<https://www.tribuneindia.com/news/india/11-lakh-pages-of-army-history-to-be-digitised-581073>





**Press Information Bureau**  
**Government of India**

**Ministry of Science & Technology**

*Fri, 12 Jan 2024*

## **Relaxed Assumptions can Throw Better Light on Cold Dark Matter of the Universe**

Scientists have found a new approach to explore cold dark matter (CDM), a hypothetical dark matter that constitutes 25 percent of the current Universe.

In the current universe, nearly 70 per cent constitutes dark energy whereas 25 per cent is dark matter – about both of which there is scanty knowledge, till date. The nature of dark matter and its interactions with the rest of the matter remains a mystery. Scientists have, so far, been able to study a miniscule area of the Universe which comprises everything -- the galaxies, stars, constellations, and meteors to name a few. It is very difficult to determine what the constituents of cold dark matter are. The confusion is escalated because of the two models used to study CDM namely the particle physics model and the cosmological model were not in agreement.

The cosmological model provides a description of the largest-scale structures and dynamics of the universe and allows study of fundamental questions about its origin, structure, evolution, and ultimate fate while the particle physics model describes the most basic building blocks of the universe. The success rate of the standard cosmological model has been good in recent decades.

One of the promising candidates of CDM is the Weakly Interacting Massive Particles (WIMP). Such particle arises naturally in extensions of standard model of particle physics and predict the correct energy density of the CDM for plausible range of interaction strength (WIMP miracle). However, inspite of intensive searches and orders of magnitude improvement in the sensitivity of lab experiments (e.g. Xenon based experiments), WIMP has not yet been detected. In addition, the parameter space suggested by the WIMP miracle had mostly been ruled out.

In a recently published paper by Raman Research Institute (RRI), an autonomous institute of the Department of science and Technology (DST) have confirmed the relevance of WIMP by relaxing certain earlier assumptions and hence proved that theorising dark matter from particle physics was possible.

Professor Shiv Sethi from the Raman Research Institute (RRI) and his collaborator, Abineet Parichha, a former student at the Indian Institute of Science Education and Research, Mohali, proved the relevance of WIMP by considering an unstable WIMP in their analysis relaxing earlier assumptions of the stability of particles. The authors demonstrated that this allows them to satisfy all the existing observational and experimental constraints on the nature of cold dark matter. In addition,

this hypothesis is testable from cosmological data. This model is at variance with the dark matter experiments and the research makes it clearer that the assumption of a massive, stable WIMP needs to be altered.

“We considered a model wherein the WIMP decays and one of the decay products of WIMPs acts as cold dark matter at late times. From theoretical perspective, this scenario allows us to expand the permissible space of parameters. Additionally, we show that such a model leaves observable signatures on the Cosmic Microwave Background and the high redshift neutral hydrogen data,” said Prof. Sethi, senior faculty of Astronomy and Astrophysics at RRI.

The dark matter paradigm based on WIMP brought into consonance the standard models of particle physics and cosmology. However, this remarkable agreement was short-lived as experiments to detect cold dark matter in the relevant mass range have failed. The current work proposes viable scenarios which show the two model might still be compatible.

“We found that the WIMP model is still viable under the relaxed assumptions. In addition, the data from space telescope James Webb Space Telescope (JWST) might be indicating more exciting possibilities in the dark matter sector,” Prof Sethi said.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1995501>



**Press Information Bureau**  
**Government of India**

**Ministry of Science & Technology**

*Fri, 12 Jan 2024*

## **Indian Delegation visits Hawaii to discuss progress of TMT**

An Indian delegation led by Secretary Department of Science and Technology (DST) Professor Abhay Karandikar visited Mauna Kea, Hawaii, USA and discussed challenges in the progress of Thirty Meter Telescope (TMT) project and ways to overcome them.

Thirty Meter Telescope (TMT) is a 30-meter diameter primary mirror optical and infrared telescope being established at Mauna Kea, Hawaii, USA. India is a Founder-Member Partner in this project which aims to open new windows to the universe through optical and infrared astronomy. Indian participation in this project was approved by Union Cabinet in 2014.

A five-member Indian Delegation led by Prof. Abhay Karandikar met with Prof. Henry Yang, Chairman, Thirty Meter Telescope (TMT) International Observatory (TIO) Board, Prof. Robert Kirshner, Executive Director, TIO and TMT Project Managers at Hawaii on 9<sup>th</sup> January 2024.

The discussions centered on TMT's present status, particularly regarding Mauna Kea site, start of civil construction, present funding situation, progress made so far towards in-kind deliverables for the project and expected timelines in the present scenario.

Separate meetings were also held with Mr. Scott Saiki, Speaker of the House, Hawaii State Legislature, Mr. John Komeiji, Chairman, Mauna Kea Stewardship and Oversight Authority, Mr. Mitch Roth, Mayor Hawaii County, Ms. Kaiu Kimura, native Hawaiian and Executive Director of Imiloa Astronomy Center, Mr. Toby Taniguchi, President of KTA Superstores, Mr. Pua Ishibashi, native Hawaiian and State of Hawaii Department of Land and Natural Resources, Dr. Kimo Alameda, native Hawaiian and Hawaii County Mayoral candidate 2024.

The issues discussed included initiation of process for inclusion of native Hawaiians in decision-making, way forward for the project in the present circumstances.

Indian delegation was apprised on each aspect of the project, inclusion of native Hawaiians, funding availability and prospects, civil construction of the facility as well as in-kind deliverables developmental activities for establishing the TMT.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1995476>



**Press Information Bureau**  
**Government of India**

**Ministry of Science & Technology**

*Sun, 14 Jan 2024*

## **IISF 2023 presents Vigyanika, the Science Literature Festival**

The India International Science Festival, IISF 2023 presents Vigyanika- science literature festival with the primary objective of showcasing India's scientific prowess and charting a comprehensive roadmap for effective communication of S&T achievements. The event is going to be held at the Regional Centre for Biotechnology (RCB) – Translational Health Science and Technology Institute (THSTI) campus, Faridabad, Haryana, on 18<sup>th</sup> and 19<sup>th</sup> January, 2024. CSIR-National Institute of Science Communication and Policy Research (NIScPR), National Innovation Foundation-India (NIF), and Vijnana Bharati (VIBHA) are the coordinating organisations.

The planned sessions on 18<sup>th</sup> January 2024 include a scientific session on the theme “Science and Technology Public Outreach in India.” Prof B N Jagatap, Senior Professor, IIT Bombay will chair the session. The experts include Dr. Dinakar M. Salunke, Former Director, International Centre for Genetic Engineering and Biotechnology (ICGEB), Prof KC Bansal, Former Director, National Bureau of Plant Genetic Resources (NBPGR); and Prof (Dr) Uma Kumar, All India Institute of Medical Science (AIIMS), New Delhi.

A panel discussion will take place on the theme “Apni Bhasha Apna Vigyan: Strengthening Sci Comm in Indian Languages.” Shri Chamu Krishna Shastry, Padma Shri, Chairman- Bharatiya Bhasha Samiti will chair the session. Science communicators in Hindi, Punjabi, Manipuri, Tamil, Assamese, and Malayalam will share their thoughts.

A workshop on popular science writing is also planned which will be conducted by Shri Hasan Jawaid Khan, Former chief scientist, CSIR-NIScPR, and Dr HS Sudhira, a leading science communicator. A scientific session with the theme “Science Communication in India: Current Trends, Op-

portunities and Challenges” has been planned where selected participants will present their papers. Dr PK Joshi from Homi Bhabha Centre for Science Education (HBCSE) will chair the session.

Next in line is the cultural programme with a confluence of arts and science. This will include a science drama.

The first session on Day 2 (19<sup>th</sup> January 2024) is a panel discussion on the theme “Creative Science Communication through Films, Podcasts & Social Media - Amplifying the Reach.” A drawing and quiz competition for school students is also planned.

The other panel discussion on the same day is on the theme “Challenges in Traditional Knowledge Research & Communication.” Prof Vasant Shinde, Former VC, Deccan College will chair the session. A Vigyan Kavi Sammelan is also planned which will be chaired by Dr Madhu Pant, Former Director, National Bal Bhawan.

A special session on “Science communication for Vasudhaiva Kutumbakam” followed by the valedictory session is planned for the evening. Internationally-acclaimed author Mr. Marc Prensky and Dr Sharmila Binti Md. Salleh, Chief Executive Officer at Yayasan Inovasi Malaysia (YIM) are expected to attend the session.

Dr Paramananda Barman & Dr Monika Jaggi from CSIR-NIScPR, Dr Nitin Maurya & Rahul Prakash from NIF and Dr Madhav Govind & Dr Neel Sarovar Bhavesh from Vibha are the coordinators of Vigyanika 2023.

The Science Media Communication Cell (SMCC) at CSIR-National Institute of Science Communication & Policy Research (NIScPR) is coordinating and facilitating the media publicity of the India International Science Festival (IISF) 2023. The key objective of the SMCC is to disseminate and showcase R&D breakthroughs and scientific achievements of India on various platforms of media.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1995987>



**Press Information Bureau**  
**Government of India**

**Ministry of Science & Technology**

*Sun, 14 Jan 2024*

## **Call for Nominations announced under Rashtriya Vigyan Puraskar 2024 in the field of Science, Technology, and Innovation**

**Fifty-six awards announced in four categories, viz., Vigyan Ratna, Vigyan  
Shri, Vigyan Yuva and Vigyan Team**

## The awards shall be announced on National Technology Day (11 May 2024)

The Government of India has announced the “Rastriya Vigyan Puraskar” in the field of Science, Technology and Innovation. The National Award recognizes outstanding and inspiring scientific, technological and innovation contributions of researchers, technologist and innovators.

Nominations/Applications are invited for the Rashtriya Vigyan Puraskar (RVP) for individuals or in teams in various fields of science, technology and technology led innovation.

The awards shall be given in following four categories:

- I. Vigyan Ratna (VR): Maximum of three awards to be bestowed to recognize life time achievements & contributions made in given field of Science and Technology.
- II. Vigyan Shri (VS): Maximum of 25 awards to be given to recognize the distinguished contributions in given field of Science and Technology.
- III. Vigyan Yuva: Shanti Swarup Bhatnagar (VY-SSB) award: Maximum of 25 awards to be given to recognize and encourage young scientists who made an exceptional contribution in given field of Science and Technology.
- IV. Vigyan Team (VT) award: Maximum of three awards may be awarded to a team comprising of three or more scientists/researchers/innovators who have made an exceptional contribution working in a team in given field of Science and Technology.

The Rashtriya Vigyan Puraskar shall be given in the following 13 domains, namely: Physics, Chemistry, Biological Sciences, Mathematics & Computer Science, Earth Science, Medicine, Engineering Sciences, Agricultural Science, Environmental Science, Technology & Innovation, Atomic Energy, Space Science and Technology, and Others. The nominations for this bouquet of awards are invited on Award Portal of Ministry of Home Affairs (<https://awards.gov.in/>) from 14<sup>th</sup> January 2024 to 28<sup>th</sup> February 2024.

The general guidelines and RVP details are available on the awards portal. The awards this year are being coordinated by Council of Scientific and Industrial Research (CSIR) under the Ministry of Science and Technology. The awards shall be announced on 11<sup>th</sup> May 2024 (National Technology Day). The Award Ceremony for all categories of awards will be held on 23<sup>rd</sup> August 2024 (National Space Day).

<https://pib.gov.in/PressReleasePage.aspx?PRID=1995945>



*Mon, 15 Jan 2024*

### **ISRO eyes Feb Launch for key INSAT-3DS satellites**

After a successful start to 2024, with two significant missions already completed, the Indian Space Research Organisation (Isro) is now gearing up to launch INSAT-3DS satellites on-board the Geo-

synchronous Launch Vehicle (GSLV-F14), its more advanced rocket that uses liquid propellant. Senior officials from the space agency said that the launch is likely to happen around the first week of February.

Isro officials said that the launch was previously planned for January, but it is now likely to happen in February. They, however, said that the satellite is already in the process of being integrated with the launch vehicle and the agency is only waiting for a final launch date.

“It is likely to happen by the first week of February itself,” a senior official confirmed, asking not to be named.

The INSAT-3DS mission will carry satellites for the India Meteorological Organisation (IMD) as a part of its series of climate observatory satellites. This mission was initiated as a part of a collaboration between Isro and IMD to improve the network of climate services. The multi-mission meteorological data receiving and propulsion system collaboration includes three dedicated Earth observation satellites —INSAT-3D and INSAT-3DR --- which are already in orbit, with the INSAT-3DS due next.

Crucially, this will be the first launch of the GSLV in around eight months. The rocket has a higher capacity, and uses cryogenic liquid propellants for all its three stages --- this use of liquid fuel makes for a more complicated engineering, but it allows for much higher lift-off weight capacity. India’s other rocket, the workhorse PSLV, uses solid fuel.

Isro chairman S Somanath said during a media briefing earlier this month that the space agency was planning at least 12 launches in 2024. The space agency is already on to a good start towards attaining that goal, as it has already successfully launched India’s first polarimetry mission, X-ray Polarimeter Satellite or XPoSat, on January 1 and on January 6 successfully placed the Aditya-L1 satellite—India first solar observatory which was launched on September 2 last year—in the intended orbit to initiate its five-year mission.

The upcoming months will also see rounds of tests and technology demonstration for Gaganyaan, India’s first human spaceflight project. The Gaganyaan mission aims to demonstrate Isro’s human spaceflight capability by launching a crew of three members to an orbit of 400km for a three-day mission and bringing them back safely. Leading up to the actual manned mission, the space agency will be conducting several rounds of tests to ensure the systems are safe to carry and bring back astronauts safely to Earth. After the TV-D1 test flight demonstration, which was carried out in October last year, the space agency will also be carrying out a test flight with a robot, ‘Vyomitra’, a humanoid astronaut, and an unmanned flight before the manned mission, possibly scheduled for 2025, according to officials from the department of space.

Isro has also lined up the launch of India’s collaboration with US’s National Aeronautics and Space Administration (NASA), NASA-ISRO Synthetic Aperture Radar (NISAR), which is expected to take flight by March.

<https://www.hindustantimes.com/india-news/isro-eyes-feb-launch-for-key-insat-3ds-satellites-101705259448908.html>



## **Why ISRO may use Russia-made Spacesuits for Gaganyaan Astronauts instead of India-made IVA suits?**

The Indian Space Research Organisation is likely to opt for Russian-made spacesuits instead of indigenously crafted Intra Vehicular Activity (IVA) suits for the astronauts of its ambitious Gaganyaan mission, according to a Hindustan Times report.

The Indian-made IVA suits are developed by the Vikram Sarabhai Space. These suits will be ready for use and testing by the space agency soon. Earlier, it was planned that astronauts would wear these IVA suits during the Gaganyaan mission. However, the preparations for the mission indicate that Indian astronauts will wear Russian spacesuits.

"Considering the programmatic requirements and to doubly ensure the crew safety, it is planned to induct Russian space suits for the (Gaganyaan) mission," read an official document seen by the Hindustan Times' Soumya Pillai.

Earlier this month, S Somanath called the year 2024 "the year for Gaganyaan," as ISRO is scheduled to make key tests and perform demonstrations related to the mission over the coming months.

### **ISRO Gaganyaan mission**

ISRO aims to demonstrate its capability to perform India's first human spaceflight mission program, the Gaganyaan mission. Under the space program, ISRO will launch a crew of three members to an orbit of 400km for a three-day mission and bring them back safely.

Ahead of the actual manned mission, the space agency will perform several tests and programs to ensure 100% success of the program.

Before the launch of Gaganyaan spaceflight, ISRO's focus will be on the development of many critical technologies including a human-rated launch vehicle for carrying the crew safely to space, a Life Support System to provide an earth-like environment to the crew in space, a crew emergency escape provision and evolving crew management aspects for training, recovery and rehabilitation of crew.

The precursor missions that will be carried out before the Gaganyaan mission include the Integrated Air Drop Test (IADT), Pad Abort Test (PAT), and Test Vehicle (TV) flights. In addition to this, the Indian space agency will also test the safety and reliability of all systems in unmanned missions preceding manned missions.

<https://www.livemint.com/science/news/why-isro-may-use-russia-made-spacesuits-for-gaganyaan-astronauts-instead-of-india-made-iva-suits-11705076040136.html>

