

March  
मार्च  
2025

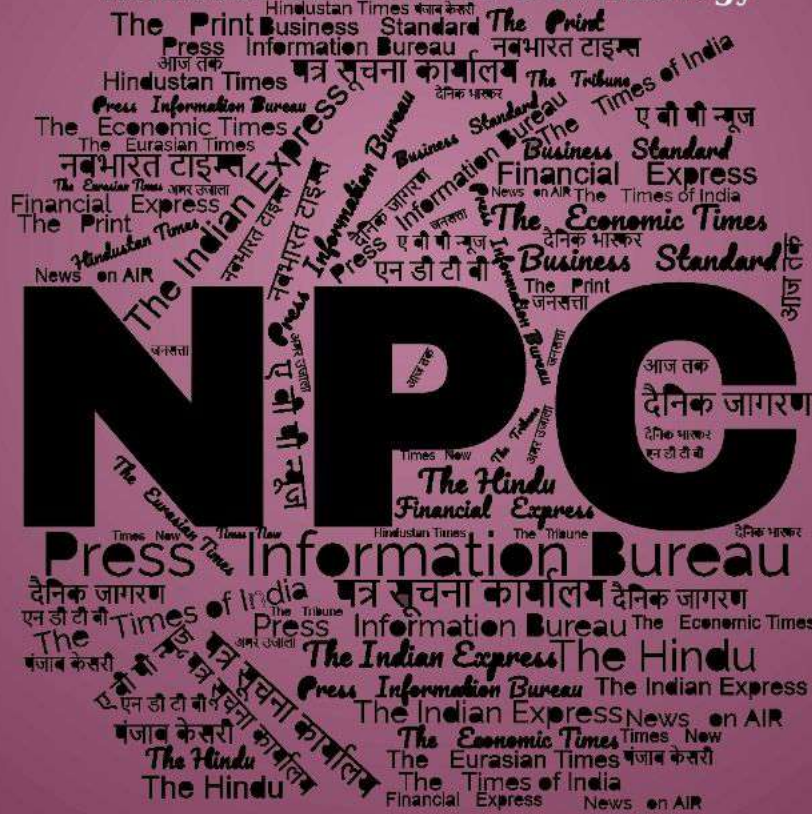
खंड/Vol. : 50 अंक/Issue : 47

08-10/03/2025

# समाचार पत्रों से चयनित अंश Newspapers Clippings

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

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## DRDO News

### DELIVERY OF EIGHTH MISSILE CUM AMMUNITION (MCA) BARGE, LSAM 11 (YARD 79)

Source: Press Information Bureau, Dt. 08 March 2025,

URL: <https://pib.gov.in/PressReleasePage.aspx?PRID=2109319>

Induction ceremony of the **eighth** Missile Cum Ammunition Barge (MCA) Barge, LSAM 11(Yard 79) was held on **07 Mar 25** at Naval Dockyard, Mumbai. Chief Guest for the Ceremony was **Cmde Rajesh Bargoti, CoY, ND(Mbi)**. With delivery of LSAM 11, the MSME Shipyard completes contractual delivery of all eight Barges to Indian Navy.

The contract for construction and delivery of eight MCA Barges was concluded with a **MSME Shipyard, M/s SECON Engineering Projects Pvt Ltd**, Visakhapatnam on 19 Feb 21. These Barges have been indigenously designed by the shipyard in collaboration with an Indian Ship Designing firm and successfully model tested at Naval Science and Technological Laboratory (NSTL), Visakhapatnam to ensure their seaworthiness. The Barges have been built in accordance with relevant Naval Rules and Regulations of Indian Register of Shipping (IRS). MCA Barges are proud flag bearers of **Make in India and Aatmanirbhar Bharat** initiatives of Government of India and highlight the Indian Navy's commitment to encourage MSMEs.

Seven of these MCA Barges have already been inducted and are providing an impetus to the operational commitments of Indian Navy by facilitating Transportation, Embarkation and Disembarkation of articles/ ammunition to **IN** platforms both alongside jetties and at outer harbours.



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## Defence News

### Defence Strategic: National/International

#### **Raksha Mantri Shri Rajnath Singh interacts with women crew members of Navika Sagar Parikrama (NSP) II online on the eve of International Women's Day**

**“Their courageous journey aboard INSV Tarini, tackling the immense challenge of circumnavigating the globe, stands as a beacon of Nari Shakti”:  
Raksha Mantri**

**Source: Press Information Bureau, Dt. 07 March 2025,**

**URL: <https://pib.gov.in/PressReleasePage.aspx?PRID=2109200>**

Raksha Mantri Shri Rajnath Singh interacted with the crew members of Navika Sagar Parikrama II (NSP II), Lt Cdr Dilna K and Lt Cdr Roopa A of the Indian Navy, through video conferencing today on 7 March, 2025 on the eve of International Women's Day in New Delhi. Their sailing vessel INSV Tarini, currently in the South Atlantic Ocean at a distance of 450 nautical miles from the previous port of call Port Stanley in the Falkland Islands, is heading to Cape Town, South Africa.

During the interaction, the Raksha Mantri lauded the courage, dedication, and resilience of the NSP II crew, who have embarked on a challenging voyage of circumnavigating the globe, as part of India's continued efforts to showcase *Nari Shakti* in high-endurance missions. He congratulated the crew for the remarkable milestones of crossing Point Nemo, the world's most isolated waters and sailing through the Drake Passage, one of the most treacherous water bodies.

On the eve of International Women's Day, I interacted with the amazing crew of Navika Sagar Parikrama II. Their courageous journey aboard INSV Tarini, tackling the immense challenge of circumnavigating the globe, stands as a beacon of Nari Shakti.

Their unwavering resilience,... [pic.twitter.com/M20YzFer2F](https://pic.twitter.com/M20YzFer2F)

— Rajnath Singh (@rajnathsingh) [March 7, 2025](#)

Raksha Mantri reiterated the government's vision of a gender-inclusive armed force, encouraging more young women to aspire for careers in defence and adventure sports. He acknowledged the invaluable role of women in bolstering national security and reaffirmed the government's commitment to expanding opportunities for women in the defence sector.

Navika Sagar Parikrama II (NSP II) is a flagship initiative of the Indian Navy, aimed at circumnavigating the globe through a two-women crew on board. NSP II symbolises India's resolve to encourage women's participation in maritime and defence sectors, fostering leadership

and self-reliance. The crew, comprising two women officers of the Indian Navy, underwent rigorous training in navigation, weather management, and ocean survival techniques before undertaking this prestigious journey, which was flagged off on 02 October 2024 at Goa by the Chief of the Naval Staff.

The Ministry of Defence has been at the forefront of ensuring greater representation of women in the Indian Defence Forces. Various initiatives, including permanent commission opportunities, increased intake in the National Defence Academy (NDA) and Indian Naval Academy (INA), and leadership roles in combat and aviation branches, have significantly contributed to a more inclusive force.

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## INDIAN NAVY'S FIRST TRAINING SQUADRON CONCLUDES VISIT TO PHUKET DEEP SEA PORT, THAILAND

Source: Press Information Bureau, Dt. 07 March 2025,

URL: <https://pib.gov.in/PressReleasePage.aspx?PRID=2109160>

The visit of First Training Squadron (ITS) - **INS Sujata, INS Shardul and ICGS Veera** to Phuket Deep Sea Port, Thailand concluded on a high note with coordinated tactical manoeuvres and exchange of sea riders during PASSEX with *HTMS Huahin* on **04 Mar 25**. During the stay at harbour, bilateral activities between the Indian Navy and Royal Thai Navy (RTN) included multiple professional exchanges, training visits and social interactions bolstering Navy-to-Navy connections.

Capt Anshul Kishore, Senior Officer, ITS along with Commanding Officers of INS Shardul, Sujata and ICGS Veera called on Vice Admiral Suwat Donsakul, Commander, 3rd Naval Area Command. The interactions focused on regional security, avenues for joint training exercises and goodwill activities.



The sea trainees of ITS visited 3rd Naval Area Command, Phangna Naval Port and *HTMS Krabi* providing opportunity for training interaction and sharing of best practices. A guided tour of

ITS ships was organised for school children, RTN personnel and Indian diaspora. Other highlights of the visit included a combined *yoga* session and friendly sports fixtures between both sides. An Indian Naval band concert was held at Patong beach witnessing huge footfall of tourists and local populace. An onboard reception was co-hosted by Indian Embassy and Senior Officer, ITS which was attended by senior leadership from Royal Thai Navy, esteemed members of the Indian diaspora, diplomats and other distinguished Guests.

The extant visit consolidates strong bonds of friendship between the two Navies and underscores Indian Navy's commitment to strengthening maritime cooperation with its neighbours in line with the vision of **SAGAR (Security and Growth for All in the Region)**.

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## Ministry of Defence signs \$ 248 million Deal for procurement of engines for T-72 Tanks for Indian Army

Source: Press Information Bureau, Dt. 07 March 2025,

URL: <https://pib.gov.in/PressReleasePage.aspx?PRID=2109146>

The Ministry of Defence has signed a contract with Rosoboronexport (RoE), Russian Federation worth \$ 248 million for procurement of 1000 HP Engines for T-72 Tanks in fully formed, completely knocked down and semi knocked down conditions.

The deal also includes Transfer of Technology (ToT) from M/s RoE to M/s Armoured Vehicles Nigam Limited (Heavy Vehicle Factory), Avadi, Chennai, for integration and subsequent licensed production of engines under ToT to boost the 'Make in India' initiative in Defence Sector.



T-72 is the mainstay of tank fleet of the Indian Army which is at present fitted with 780 HP Engine. Equipping the existing fleet of T-72 Tanks with 1000 HP Engine will enhance the battle field mobility and offensive capability of Indian Army.

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## **Two-Day Armed Forces Display - 'Shaurya Vedanam Utsava' - begins in Motihari**

**Source: Press Information Bureau, Dt. 07 March 2025,**

**URL: <https://pib.gov.in/PressReleasePage.aspx?PRID=2109108>**

A vibrant display of military might of the Armed Forces, Shaurya Vedanam Utsav, is being showcased for the first time in Motihari, Bihar on March 07, 2025. The two-day event unfolded with great enthusiasm as it displayed military equipment, martial arts, mass performance by military bands, combat demonstration by special forces, motorcycle, dog show and more.

The ceremony was graced by, Governor of Bihar Shri Arif Mohammed Khan; Member of Parliament and Chairman, Parliamentary Standing Committee on Defence Shri Radha Mohan Singh; Army Commander Central Command Lt Gen Anindya Sengupta and senior officials from the Armed Forces, central and state Governments. The occasion was further enriched by the participation of students from various schools & colleges, NCC cadets and citizens from Bihar. As part of the occasion, the Governor paid tributes to gallant soldiers who laid down their lives to defend the nation.

In his address, Shri Radha Mohan Singh expressed satisfaction that an event at such scale could be organised in Motihari and would go a long way in motivating the youth to join the Armed Forces. As part of the grand festival, the audience was treated to an exhibition featuring notable exhibits like the T-90 tank, the Indian Army's Main Battle Tank, indigenous K-9 Vajra self-propelled artillery gun, BMP vehicles and domestically produced Weapon Locating Radar (WLR) Swathi.

The Indian Air Force (IAF) conducted a flypast featuring three Su-30 fighter aircraft, two AN 32 Transport Aircraft and Chetak Helicopters. The IAF's Akash Ganga team performed a combat free fall from 8,000 feet, thrilling the spectators. The Indian Navy personnel interacted with the visitors, sharing about the three dimensional capabilities of the navy and motivating youth to join. Performances from the navy band mesmerized spectators highlighting jointmanship between the Armed Forces. A memorial honouring the sacrifice of all bravehearts of the Armed Forces was established at the site. Visitors were made aware of the courageous deeds & valour and paid tributes to these fallen soldiers. Static displays by IAF and the Navy's Models of Aircraft Carriers, Submarine & Destroyers were also featured.

The event highlighted Aatmanirbhar Bharat's tech-driven forces, with indigenously produced versions of tanks and Artillery Guns. The event, organised with meticulous precision, also included an array of informative counters and captivating military demonstrations.

A Job Fair organised by Directorate of Resettlement for veterans served as a valuable hub, offering resources, support, networking opportunities for picking up a second career. Zonal Recruiting Offices of the Indian Army connected with the youth, providing insights into career opportunities and the latest developments in military service.

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## CULMINATION OF INDIAN NAVY'S THEATRE LEVEL OPERATIONAL EXERCISE (TROPEX) - 2025

Source: Press Information Bureau, Dt. 07 March 2025,

URL: <https://pib.gov.in/PressReleasePage.aspx?PRID=2109094>

The 2025 Edition of the Indian Navy's capstone Theatre Level Operational Exercise (TROPEX) was conducted over a period of **three months** from **Jan to Mar 25**. The Exercise which culminated in early March 2025, helped validate many of the Navy's concepts of operations.

The exercise construct included an **Amphibious Exercise - AMPHEX, a Joint Work Up Phase focused on precise delivery of ordnance on target, Cyber and Electronic Warfare, and a Tactical Phase.**

The Exercise provided a valuable evaluation of the Navy's ability to respond to multifarious challenges in a synchronised and integrated manner to defend national maritime security interests.

Set in the Indian Ocean, including the Arabian Sea and Bay of Bengal, the theatre of operations for the exercise extended approximately **4300 nm** from North to South upto 35 deg South Latitude and **5000 nm** from the Strait of Hormuz in the West to the Sunda and Lombok Straits in the East. TROPEX 25 witnessed participation of **65-70 Indian Naval ships, 9-10 submarines and over 80 aircraft** of different types. The exercise achieved a very high level of operational synergy in planning and execution of theatre level scenarios with the other Services. It witnessed extensive participation by the units of Indian Army, Indian Air Force and Indian Coast Guard comprising **Sukhoi-30, Jaguar, C-130, Flight Refueller and AWACS aircraft, over 600 Infantry troops, and more than 10 ICG ships.**

TROPEX 25 marked the successful culmination of an intense operational campaign designed to assess the Indian Navy's operational preparedness and material readiness for combat, and reaffirmed the Navy's commitment to remain a **Combat-ready, Credible, Cohesive and Future-ready Force.**

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## CDS Gen Anil Chauhan concludes official visit to Australia

Source: Press Information Bureau, Dt. 08 March 2025,

URL: <https://pib.gov.in/PressReleasePage.aspx?PRID=2109464>

Chief of Defence Staff (CDS) Gen Anil Chauhan concluded a successful visit to Australia from 04-07 March 2025. The visit underscored the growing engagement between the two nations under the Comprehensive Strategic Partnership, emphasizing shared commitment towards regional security and military collaboration. The deliberations focused on strengthening military cooperation, with key emphasis on maritime security in the Indo-Pacific region, joint exercises, capacity building, defence technology exchange and new bilateral defence initiatives.



During his visit, Gen Chauhan was accorded a ceremonial guard of honor and traditional welcome upon his arrival at the Russell Offices of the Australian Defence Force, where he held high-level discussions with Admiral David Johnston, Australia's Chief of Defence Force and with the Chiefs of Staff Committee. CDS also visited Headquarters Joint Operations Command (HQJOC), gaining insights into Australia's operational command structure and exploring avenues for enhanced joint operations. His other engagements include visit to Forces Command Headquarters, Australian Army and Fleet Headquarters, Royal Australian Navy, fostering deeper coordination in maritime security and strategic operations.

In alignment with India's commitment to professional military training and education, General Chauhan visited the Australian Defence College, where he held discussions of enhancing professional military education with Rear Admiral James Lybrand, Commandant of the ADC. The CDS addressed senior officers undergoing the Defence & Strategic Studies Course on strategic challenges in the Indo-Pacific region and interacted with Indian student officers undergoing training at the ADC, acknowledging their role in fostering bilateral military understanding and professional exchanges.

Furthering intellectual and policy exchanges, CDS chaired a round-table discussion at the Lowy Institute, Australia's premier think tank and engaged with Air Chief Marshal (Retd) Sir Angus Houston and renowned strategic experts Dr Michael Fullilove and Sam Roggeveen, exchanging valuable perspectives on India-Australia defence cooperation, multilateral security frameworks, and strategic convergence in the Indo-Pacific. Additionally, CDS received a detailed briefing on Advanced Navigation Systems, showcasing cutting-edge technologies that enhance battlefield awareness, precision targeting, and situational awareness in complex operational environments. He also visited leading Australian Defence Industry facilities, gaining first-hand insights into Australia's advanced defence manufacturing, R&D and technological innovations.

A significant moment of the visit was Gen Chauhan's tribute at the Australian War Memorial, where he laid a wreath in honour of the fallen Indian soldiers who sacrificed their lives during the Gallipoli campaign.

This visit further solidified the India-Australia defence partnership, enhancing mutual trust and understanding while reinforcing the growing convergence of strategic interests between the two nations in the Indo-Pacific region

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## **PASSING OUT PARADE OF AGNIVEER 02/24 BATCH AT INS CHILKA**

**Source: Press Information Bureau, Dt. 08 March 2025,**

**URL: <https://pib.gov.in/PressReleasePage.aspx?PRID=2109393>**

A significant milestone was achieved as 2966 trainees, including 402 women Agniveers, 288 SSR (Med Asst) and 227 Naviks passed out from INS Chilka, Odisha on 07 Mar 25. The Passing Out Parade (POP) marked the culmination of 16 weeks of rigorous ab-initio Naval training, in a unique post-sunset ceremony. The Parade was reviewed by VAdm V Srinivas, Flag Officer Commanding - in- Chief, Southern Naval Command. Cmde B Deepak Aneel, Commanding Officer, INS Chilka was the conducting Officer.

The POP was witnessed by high achiever veterans namely Sureddy Siva Kumar, Ex - SPO, Sandeep Gupta, Ex-POELP, Lohrii Besii, Ex-POELP, GS Kocher, Ex-EMR 1 including eminent sports personality Eldhose Paul, CPO COM (TEL). This major event was also witnessed by the proud family members of the passing out course. The POP signifies not only the successful completion of initial training but also marks the commencement of a new chapter in the Indian Navy. The Indian Navy emphasises on a gender neutral environment to transform these men and women into a Combat Ready, Credible, Cohesive, and Future-Ready force.

During his address, FOCINC, South congratulated the trainees for the successful completion of the course exemplifying hardwork, discipline and commitment. He impressed upon the Agniveers to hone their skills and be technologically aware, while imbibing the Navy's core values of Duty, Honour and Courage. He urged them to uphold the honour of the Nation while charting their course with courage and determination. He expressed his appreciation to the parents of Agniveers acknowledging their contribution to the Nation. The Chief Guest complimented Team Chilka for their relentless efforts and crucial role in shaping the transformation while living upto the motto of उद्यमेन हि सिध्यन्ति कार्याणि.

The Chief Guest awarded medals and trophies to meritorious Agniveers. Devraj Singh Rathore, AVR (MR) and Pramodh Singh, AVR (SSR) received the Chief of the Naval Staff Rolling Trophy and Gold Medal for Best Agniveer MR and SSR respectively. Mansa Gulivindhala, AVR (SSR) was awarded the Gen Bipin Rawat Rolling Trophy for Best Woman Agniveer in the overall order of merit. Mohit Kumar, NVK (GD) received the Director General, Indian Coast Guard Rolling Trophy and Director General Gold Medal for Best NVK (GD).

Earlier during the Valedictory function, the FOCINC, South presented the overall Championship Trophy to Angre Division and Runners Up Trophy to Eklavya Division. He also unveiled the 02/24 edition of Ankur, the bilingual trainees' magazine of INS Chilka.

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## **First rear fuselage for LCA Mk1A handed over to HAL by Indian private industry in the presence of Raksha Mantri in Bengaluru**

**The ceremony is testimony to India's progress towards Aatmanirbharta in defence & Govt's commitment to enhanced public-private partnership: Shri Rajnath Singh**

**Source: Press Information Bureau, Dt. 08 March 2025,**

**URL: <https://pib.gov.in/PressReleasePage.aspx?PRID=2109660>**

The first rear fuselage for Light Combat Aircraft Mk1A, produced by Indian Private Industry, Alpha Tocol Engineering Services Private Ltd, was handed over to Hindustan Aeronautics Limited (HAL) in the presence of Raksha Mantri Shri Rajnath Singh at Aircraft Division in Bengaluru, Karnataka on March 09, 2025. In his address, Raksha Mantri termed the handing over as a milestone in the historic journey of India's defence manufacturing. The ceremony is a testimony to India's progress towards *Aatmanirbharta* in defence and the Government's commitment towards enhanced public-private partnership, he said.

Shri Rajnath Singh commended HAL and the private sector for constantly strengthening the Armed Forces with latest platforms & technologies. He stated that HAL, through its integrated model and strategies, is not only bolstering the strength of soldiers, but is also opening new dimensions of manufacturing and R&D by collaborating with the private sector.

A fuselage is the main body section of the aircraft which holds the pilot, passengers and cargo, while the rear fuselage supports the tail section and its associated components. Raksha Mantri described HAL as the fuselage of the country's defence and aerospace sector, with private companies such as L&T, Alpha Tocol, Tata Advanced Systems and VEM Technologies playing the role of rear fuselage, supporting HAL. "Together with these Indian components, the aircraft which is being manufactured in our defence and aerospace sector will reach greater heights in the times to come," he said.

Shri Rajnath Singh credited the bravery and dedication of the air warriors as well as the equipment being manufactured by Indian public and private sectors for the growing strength of the Indian Air Force (IAF). "While our courageous air warriors have made an invaluable contribution, the equipment being manufactured indigenously is providing them the added strength, with which they protect our borders," he said. He exuded confidence that HAL and the private sector will continue to overcome every challenge and bolster the Armed Forces in every way.

HAL had placed orders on various Indian private companies such as L&T, Alpha Tocol Engineering Services, Tata Advanced Systems Ltd (TASL), VEM Technologies and Lakshmi Mission Works (LMW) for supplying major modules for the 83 LCA Mk1A contract.

HAL has already manufactured 12 LCA MK1A rear fuselages, which are on the aircraft in the manufacturing line. With this supply, a major structure module produced by an Indian private partner will be integrated into the LCA Mk1A aircraft, enabling HAL to meet additional delivery commitments for IAF from 2025-26 onwards.

Chief of Air Staff Air Chief Marshal AP Singh, MP Dr Sudhanshu Trivedi, CMD, HAL Dr DK Sunil, CEO and Director, Alpha Tocol Engineering Services Wing Commander Baran Sen (Retd), CMD, VEM Technologies Shri V Venkataraju, Senior VP, Larsen & Toubro Shri Arun T Ramchandani, VP, TASL Mr Ganesh Raghavan, President LMW-ATC Shri Krishna Kumar, Directors, and senior officers were also present along with other dignitaries.

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## **Shri Rajnath Singh becomes first Raksha Mantri to visit IAF's Institute of Aerospace Medicine in Bengaluru**

### **Launches ICMR Extramural Research Project: Centre for Advanced Research on Space Psychology**

#### **RM calls for increased R&D to deal with aerospace challenges**

**Source: Press Information Bureau, Dt. 08 March 2025,**

**URL: <https://pib.gov.in/PressReleasePage.aspx?PRID=2109629>**

Raksha Mantri Shri Rajnath Singh visited the Institute of Aerospace Medicine (IAM) of the Indian Air Force (IAF) in Bengaluru, Karnataka on March 09, 2025. Shri Rajnath Singh, the first Raksha Mantri to visit the institute, was briefed about the unique role of IAM in pilot training, their medical evaluation and aeromedical research.

Raksha Mantri also inspected the Dynamic Flight Simulator & High Performance Human Centrifuge used for high-G training of fighter pilots and the Spatial Disorientation Simulator for training the pilots of the Armed Forces to avert the risk of spatial disorientation in flight. He also launched the Indian Council of Medical Research Extramural Research Project: Centre for Advanced Research at the institute. The title of the project is 'Space Psychology: Selection and Behavioural Health Training of Astronauts & Astronaut Designates for Indian Space Missions'.

In his address, Shri Rajnath Singh highlighted the growing need for expertise in aerospace medicine in view of the continuous increase in air and space traffic. "From the defence perspective, space has emerged as a major domain in warfare. We have taken a step forward in this direction and mastered the most-advanced technologies such as anti-satellite. India has also become the fastest growing aviation market in the world. As we are touching new heights in space, we need to explore more possibilities in aerospace medicine. There is a need for increased R&D as research in any high-end complex technology provides benefits to many fields," he said.

Raksha Mantri underscored the importance of aerospace medicine, terming it as critical for dealing with challenges such as micro-gravity, radiation, and isolation faced by a human being in space, while also addressing physical and mental changes. "Whether it is an issue related to neurons, bone loss or mental problems, it is the responsibility of aerospace and space medicine to tackle these challenges. The field must prepare itself for bigger responsibilities in the future," he said.

Shri Rajnath Singh commended IAM's contribution towards achieving self-reliance in the aerospace sector. "Apart from aerospace medicine, IAM provides aero-medical consultancy in various aspects of crew module design and development. Its contribution in cockpit design is noteworthy. The institute has contributed significantly in the design and development of Advanced Light Helicopter, Light Utility Helicopter, Light Combat Helicopter and Light Combat Aircraft

Tejas. It is also providing advice in the design and development of the country's most-modern Advanced Medium Combat Aircraft,” he said.

Raksha Mantri asserted that the aerospace sector is going to witness an unprecedented growth in the times to come and it will be pivotal in realising Prime Minister Shri Narendra Modi-led Government’s vision of *Viksit Bharat* by 2047. “The sector is going to play a crucial role in deciding technological advancements, national security, and economic growth. In addition, it will be central in achieving milestones such as satellite launching, inter-planetary missions and commercial space services,” he said.

Chief of the Air Staff Air Chief Marshal AP Singh; Air Officer Commanding-in-Chief (AOC-in-C), Training Command Air Marshal Nagesh Kapoor; Director General Medical Services (Air) Air Marshal Sandeep Thareja, and other senior officers of IAF accompanied Raksha Mantri during the visit.

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## **INDIAN ARMY CONTINGENT DEPARTS FOR INDIA-KYRGYZSTAN JOINT SPECIAL FORCES EXERCISE KHANJAR-XII**

**Source: Press Information Bureau, Dt. 08 March 2025,**

**URL: <https://pib.gov.in/PressReleasePage.aspx?PRID=2109604>**

The 12<sup>th</sup> edition of the India-Kyrgyzstan Joint Special Forces Exercise KHANJAR-XII is set to take place in Kyrgyzstan from 10 March to 23 March 2025. Since its inception in 2011, Ex KHANJAR XII has evolved into an annual training event. The alternating venues between India and Kyrgyzstan reflect the unique dimension of the thriving strategic relationship. The last edition of the same exercise was conducted in India in January 2024.

The Indian contingent is represented by troops from The Parachute Regiment (Special Forces) and the Kyrgyzstan contingent is represented by Kyrgyz Scorpion Brigade.

Aim of the exercise is to exchange experiences and best practices in Counter Terrorism and Special Forces Operations in urban and mountainous high altitude terrain scenarios. The exercise will also focus on developing advanced Special Forces skills of sniping, complex building intervention and mountain craft.

Beyond rigorous training, the exercise will feature vibrant cultural exchanges, including celebration of the Kyrgyz festival Nowruz. This interaction will further cement the bond of friendship between the two nations.

The exercise will provide an opportunity for both sides to fortify defence ties while addressing common concerns of international terrorism and extremism. The exercise reaffirms the commitment of India and Kyrgyzstan to fostering peace stability, and security in the region.

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## **India-Japan Joint Military Exercise 'Dharma Guardian' concludes successfully**

**Source: The Tribune      Dt. 10 March 2025,**

**URL: <https://www.tribuneindia.com/news/world/india-japan-joint-military-exercise-dharma-guardian-concludes-successfully/>**

The 6th edition of the India-Japan joint military exercise, Dharma Guardian, concluded successfully at the East Fuji Training Area in Japan, a statement by the Indian Army said.

The exercise, held from February 24 to March 9, marked a significant milestone in bilateral defence cooperation, as it was conducted on an enhanced scale with the participation of troops at the company-strength level, the statement said.

The closing ceremony was attended by Lieutenant General Toriumi Seiji, Commanding General of the Japan Ground Self-Defence Force (JGSDF) 1st Division, who conveyed his appreciation to the participating troops for successfully meeting all objectives of the exercise. General Toriumi expressed his satisfaction with the joint training, which has further strengthened the operational readiness of both armed forces and deepened the India-Japan defence relationship. As per the statement, he emphasised the exercise's role in fostering greater cooperation and mutual understanding between the two nations' defence forces.

The joint exercise focussed primarily on counter-terrorism operations in urban terrain, a key area of collaboration. Additionally, activities related to United Nations peacekeeping operations, including Humanitarian Assistance and Disaster Relief (HADR), were also rehearsed. Troops engaged in a series of tactical drills, exchanged knowledge and expertise on operational conduct, and forged lasting ties of friendship and trust.

During the course of the exercise, troops from both sides also engaged in cultural exchange activities. This included a special Yoga session organised by the Indian contingent for the Japanese side, a display of Kalari Pattu by the Indian troops and Japanese martial arts by the Japanese troops.

The exercise concluded with a 72-hour validation phase, during which troops from both nations demonstrated their capability through a simulated joint counter-terrorism operation in an urban setting. The operation incorporated specialised techniques such as heli-borne insertion, slithering, and storming, during which the troops successfully met the desired operational standards, the statement added.

Exercise Dharma Guardian provided both sides with a unique opportunity to learn from each other's best practices for conducting joint operations. The exercise also reaffirmed the shared commitment of India and Japan to regional peace, security, and stability, strengthening the longstanding partnership between the two countries, the statement said.

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## **War-hit Ukraine tops world in weapon buys, India is second**

**Source: The Week,      Dt. 10 March 2025,**

**URL: <https://www.theweek.in/news/defence/2025/03/10/war-hit-ukraine-tops-world-in-weapon-buys-india-is-second.html>**

No surprises there. According to the latest numbers released by SIPRI (Stockholm International Peace Research Institute) on Monday, Ukraine increased its weapons imports about 100 times in 2020-24, compared to the earlier five-year period, to become the world's largest buyer of major arms.

Buying weapons from at least 35 countries, Ukraine received 8.8 per cent of global arms imports in 2020-24 with most of the major arms coming from the US (45 per cent), followed by Germany (12 per cent) and Poland (11 per cent).

SIPRI is a leading Stockholm-based think-tank that closely tracks the global trade in weapons.

In the same period, European weapons imports grew by 155 per cent reflecting a European response to Russia's invasion of Ukraine amid inconsistency of US foreign policy.

On February 24, 2022, in a sudden move that took the world by surprise and triggered global panic, Russian soldiers moved into Ukraine in what Russian President Vladimir Putin called a 'special forces operation'.

Four years later, the scope of the conflict has expanded manifold as new alignments have shaped up unleashing tectonic forces that seriously threaten to alter the existing global order.

On the other hand, India couldn't shake off its dependence on foreign weapons as it was second only to Ukraine in the same five-year period.

Most of the weapons (36 per cent) came from Russia although it was much reduced than what it was in 2015-19 (55 per cent) and 2010-14 (72 per cent).

Purportedly threatened by a two-front war scenario, Indian imports however fell by more than 9 per cent in 2020-24 from 2015-19.

Amid a global churn, the US increased its global share in the sale of weapons to 43 per cent, marking a 21 per cent increase between 2015-19 and 2020-24. In the same period, the US had sold weapons to 107 states.

A noteworthy feature of the US arms exports is that for the first time in two decades, the largest share of US arms exports in 2020-24 went to Europe (35 per cent) and not the Middle East (33 per cent).

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## **Women's Day: Women play an invaluable role in India's defence, says Rajnath Singh**

Source: The Week, Dt. 08 March 2025,

URL: <https://www.theweek.in/news/defence/2025/03/08/womens-day-women-play-an-invaluable-role-in-indias-defence-says-rajnath-singh.html>

Defence Minister Rajnath Singh, on the eve of International Women's Day on Friday, virtually interacted with the crew of Navika Sagar Parikrama II, who are circumnavigating the globe aboard INSV Tarini and hailed the unwavering resilience of the two-member women crew and highlighted the contributions of women to India's defence.



Navika Sagar Parikrama II is an Indian Navy expedition attempting a double-handed circumnavigation of the earth via the three Great Capes. Lt Cdr Dilna K. and Lt Cdr Roopa A. are now heading to Cape Town, South Africa after their previous port of call at Port Stanley in the Falkland Islands.

The defence minister praised the two women for their courage, dedication, and resilience and congratulated them for the remarkable milestones of crossing Point Nemo, the world's most isolated waters and sailing through the Drake Passage, one of the most treacherous water bodies.

The minister said the government envisions a gender-inclusive armed force and is encouraging more young women to opt for careers in defence and adventure sports.

According to a defence ministry release, Singh acknowledged the "invaluable role" of women in boosting national security and reaffirmed the government's commitment to expanding opportunities for women in the defence sector.

In a statement, the defence ministry said it has been at the forefront of ensuring greater representation of women in the Indian Defence Forces. "Various initiatives, including permanent commission opportunities, increased intake in the National Defence Academy (NDA) and Indian Naval Academy (INA), and leadership roles in combat and aviation branches, have significantly contributed to a more inclusive force," it said.

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## **Another Missile Cum Ammunition barge joins Indian Navy**

**Source: The Week, Dt. 08 March 2025,**

**URL: <https://www.theweek.in/news/defence/2025/03/08/another-missile-cum-ammunition-barge-joins-indian-navy.html>**

The eighth and final Missile Cum Ammunition (MCA) barge, LSAM 11(Yard 79), was inducted into the Indian Navy on Friday at the Naval Dockyard, Mumbai. Seven of these MCA barges, designed to support the operational requirements of the Navy, have already been inducted into the force earlier.

The MCA barge, constructed by SECON Engineering Projects Pvt Ltd, will facilitate the transportation, embarkation and disembarkation of articles or ammunition to Indian Navy platforms both alongside jetties and at outer harbours.

With the delivery of this MCA barge, the MSME company has completed the contractual delivery of all eight barges to the Indian Navy, the defence ministry said in a release.

These barges have been indigenously designed by the shipyard in collaboration with an Indian Ship Designing firm and successfully model tested at Naval Science and Technological Laboratory (NSTL), Visakhapatnam to ensure their seaworthiness.

The ministry said the barges have been built in accordance with relevant naval rules and regulations of the Indian Register of Shipping (IRS).

"MCA barges are proud flag bearers of Make in India and Aatmanirbhar Bharat initiatives of government of India and highlight the Indian Navy's commitment to encourage MSMEs," the statement from the ministry read.

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## India's oldest think tank USI struggles to stay afloat as funds dry up, urges members to donate

Source: The Print, Dt. 07 March 2025,

URL: <https://www.theweek.in/news/defence/2025/03/08/another-missile-cum-ammunition-barge-joins-indian-navy.html>

The prestigious United Service Institution (USI), the oldest autonomous think tank in India, is facing a “significant financial challenge” and has reached out to its nearly 15,000 members to pitch in. The members, who are from the services or influential individuals like IAS/IPS/IFS and Class-1 Gazetted Officers of Group A central services, have been trying to secure funding from the private sector, but it is learnt that not much success has been achieved.

In the letter, the director general (DG) of the institution, Major General Bal Krishan Sharma, noted that the financial crunch USI is facing is in contrast to other service think tanks like CLAWS, CAPS, NMF and CENJOWS, which are funded by the private sector or the defence ministry itself. “USI does not receive any financial support from the MoD or the Services Headquarters. Similarly, MPIDSA is fully funded by the MoD through an Act of Parliament. Many non-military think tanks are financially backed by corporate houses and enjoy the patronage of various establishments,” the letter said.

“Despite these efforts, the institution is facing an existential crisis and urgently requires an infusion of funds,” the letter said, requesting each member to donate Rs 10,000 or more. It stated that contributions of any amount are welcome.

Founded in 1870 and registered in 1874 under the Indian Society Act of 1860, the vice-patrons of the think tank are the serving Service Chiefs—General Upendra Dwivedi, Admiral Dinesh Tripathi and Air Chief Marshal A.P. Singh. Management is vested in a council of 24 members, 10 of whom are ex officio and 14 elected for a period of three years.

Interestingly, the president and the vice presidents are all serving top military officers, while ex officio members include Defence Secretary Rajesh Kumar Singh.

It added, “Unfortunately, USI has not received funding from the MoD or the Service HQs despite numerous attempts to seek support at the highest levels. The institution is operating on a limited budget, primarily funded through memberships, project revenue and rental income from events held at its premises. Additionally, the financial corpus has been severely impacted by the COVID-19 pandemic and low bank interest rates, leaving USI in a precarious financial position.”

The DG said that the management of USI has taken “stringent austerity measures,” including voluntary reduction in pay, freezing of dearness allowance and increment, and resorting to the hiring of only essential staff on a contractual basis.

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## Indian forces to participate in Mauritius National Day celebrations

Source: Buisnees Standard Dt. 08 March 2025,

URL:[https://www.business-standard.com/external-affairs-defence-security/news/indian-forces-to-participate-in-mauritius-national-day-celebrations-125030800028\\_1.html](https://www.business-standard.com/external-affairs-defence-security/news/indian-forces-to-participate-in-mauritius-national-day-celebrations-125030800028_1.html)

A contingent of the Indian defence forces will participate in the celebrations of the National Day of Mauritius, with Prime Minister Narendra Modi as the chief guest for the event, the Ministry of External Affairs announced on Friday.

An official statement by the MEA said that, at the invitation of the Prime Minister of Mauritius, Navinchandra Ramgoolam, PM Modi will pay a State Visit to Mauritius from March 11-12 and attend the National Day celebrations of Mauritius on March 12 as the Chief Guest.

"A contingent of Indian Defence Forces will participate in the celebrations along with a ship from the Indian Navy. Prime Minister last visited Mauritius in 2015", the statement added.

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"A contingent of Indian Defence Forces will participate in the celebrations along with a ship from the Indian Navy. Prime Minister last visited Mauritius in 2015", the statement added.

The Ministry of External Affairs observed that the PM's visit will reaffirm the strong and enduring bond between India and Mauritius and reinforce the shared commitment of both countries to enhance the bilateral relationship across all sectors.

Last month, Mauritius PM Ramgoolam said while addressing the country's Parliament said, "I have great pleasure to inform the House that following my invitation, Narendra Modi, Prime Minister of India, has kindly agreed to be the Guest of Honour for our National Day celebrations. It is indeed a singular privilege for our country to host such a distinguished personality who is doing us this honour, despite his very tight schedule and his recent visits to Paris and the United States."

Ramgoolam further said that the visit serves as a testament to the strong and enduring relationship between the two countries.

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## As Army Chief General Upendra Dwivedi Reviews Strike One Corps, How Prepared are we for a Two-Front War?

Source: Business Standard Dt. 08 March 2025,

URL: <https://www.republicworld.com/defence/global-defence-news/as-army-chief-general-upendra-dwivedi-reviews-strike-one-corps-how-prepared-are-we-for-a-two-front-war>

Chief of Army Staff (COAS) General Upendra Dwivedi visited Strike One Corps on March 6, 2025, where he assessed the formation's operational preparedness and participated in the Capability Development Conference. His visit comes at a time of growing regional tensions, particularly along the Northern Borders, reinforcing India's focus on high-readiness military formations capable of executing decisive operations.

Strike One Corps, headquartered in Mathura, Uttar Pradesh, is one of the most formidable offensive formations in the Indian Army. Established on April 1, 1965, it has played a decisive role in major conflicts, including the Indo-Pakistani Wars of 1965 and 1971. It was instrumental in the Battle of Basantar, where Indian forces executed a deep thrust into enemy territory, securing vital ground.

In contemporary warfare, Strike One Corps is India's principal strike force, designed to execute rapid, high-intensity operations in a full-scale war scenario. Unlike defensive formations tasked with holding ground, Strike Corps formations are structured to launch deep offensives, disrupt enemy defences, and achieve swift territorial gains.

### Strategic Role in a Conflict Scenario and Potential Deployment in a Two-Front War

In the event of an armed conflict, Strike One Corps would spearhead India's offensive strategy, particularly against Pakistan. The Corps is equipped with armoured divisions, mechanized infantry, long-range artillery, and integrated air-defence assets, enabling it to execute high-speed, mechanized thrusts deep into enemy-held areas.

With increasing security concerns along the LAC in Ladakh, Strike One Corps was reassigned from South Western Command to Northern Command in 2021. This shift reflects India's evolving military strategy, recognizing the growing threat from China.

If tensions along the LAC escalate, Strike One Corps could play a critical role in:

- **Counteroffensive Operations** – Responding to incursions by China's People's Liberation Army (PLA) with rapid deployment and force projection.
- **High-Altitude Warfare** – Conducting mountain-strike operations, leveraging specialized armoured units and long-range precision firepower.
- **Integrated Air-Land Battle** – Utilizing air support, UAV surveillance, and cyber-electronic warfare capabilities to gain battlefield superiority.

To maintain its combat readiness, Strike One Corps conducts Exercise Parvat Prahaar (Mountain Strike) in high-altitude, rugged terrain conditions along the LAC. The drills incorporate tanks, self-propelled artillery (including K-9 Vajra T howitzers), integrated air-defence systems, and precision

strike capabilities, simulating real warfighting scenarios. The 2022 and 2024 editions of the exercise reinforced India's preparedness for high-altitude mechanized warfare.

### **Massive Mobilization in Ladakh**

With ongoing border tensions with China, reports indicate that Strike One Corps deployed 500+ Main Battle Tanks (T-90 Bhishma & T-72 Ajeya), 50,000 Troops in Eastern Ladakh and Integrated Mechanized and Artillery Formations.

This deployment underscores India's strategy of maintaining offensive deterrence, ensuring that any provocation is met with a swift and decisive response.

Beyond domestic preparedness, COAS General Dwivedi is actively engaging with global military leaders. Recently, he delivered a keynote address at École de Guerre, the prestigious French Joint Staff College, where he outlined India's strategic overview and regional security dynamics to an audience of 98 officers from 68 countries.

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## Science & Technology News

### Green and efficient synthesis of hydrogen peroxide under sunlight could benefit the industry

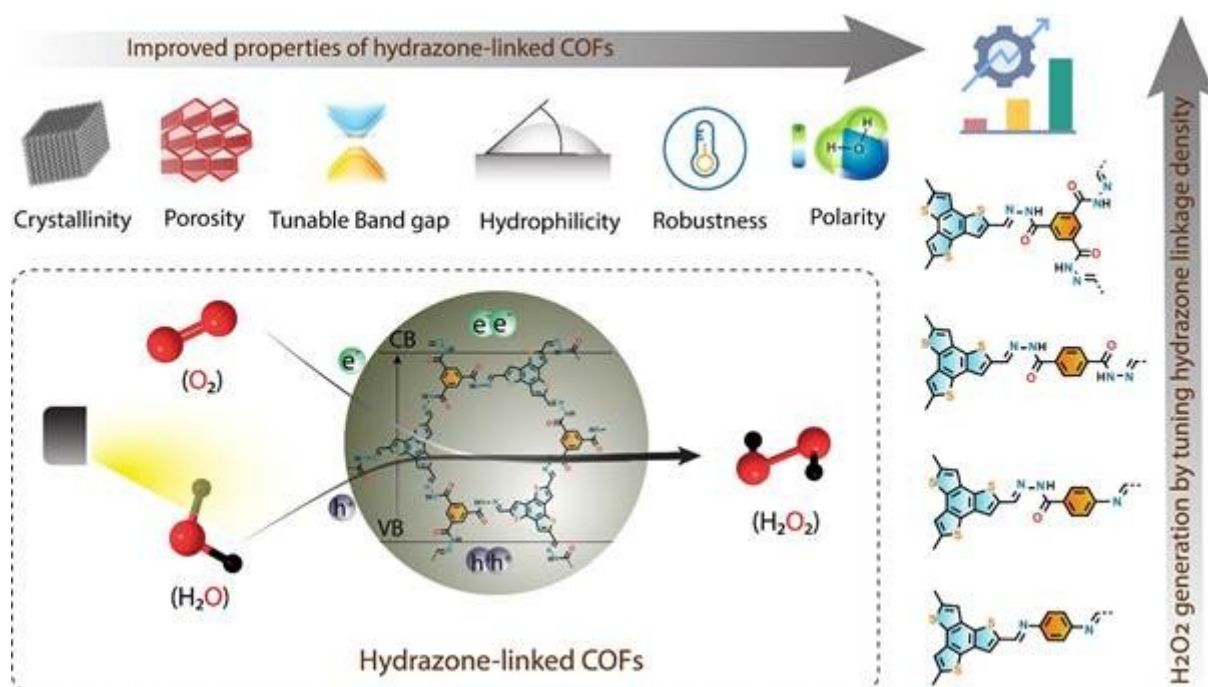
Source: Press Information Bureau, Dt. 07 March 2025,

URL: <https://pib.gov.in/PressReleasePage.aspx?PRID=2109125>

Researchers have found an efficient, less energy-intensive, and environmentally friendly way of synthesizing hydrogen peroxide, a chemical that is crucial to the industry for disinfection, paper bleaching, and so on.

Hydrogen peroxide ( $H_2O_2$ ) is a versatile oxidizing agent that is widely used in environmental disinfection, chemical synthesis, paper bleaching, and fuel cells. In addition, the growth of this market is driven by the increasing awareness of disinfection, the rise in the number of surgeries, the prevalence of hospital-acquired infections, and so on. Currently, over 95% of  $H_2O_2$  is produced industrially using the anthraquinone oxidation process, which is very energy intensive, expensive and produces many hazardous chemicals as by-products.

Scientists are therefore looking for an environmentally friendly and economical strategy to produce  $H_2O_2$  from renewable resources with minimal environmental impact. In this context, a new class of porous and ordered polymers with modifiable catalytic sites and light-harvesting properties in visible range, called covalent organic frameworks (COFs), have emerged as promising photocatalysts.



**Figure :** Sustainable synthesis and versatile applications of hydrogen peroxide.

Researchers at S. N. Bose National Centre for Basic Sciences, Kolkata, an autonomous institute under the Department of Science and Technology (DST), have designed and prepared a series of

COFs having good water affinity through careful control of the hydrazone linkage density and studied their effect on the photocatalytic performance for H<sub>2</sub>O<sub>2</sub> generation. It was observed that the hydrazone-linked COFs provide abundant docking sites for water and oxygen, thereby promoting water oxidation reaction (WOR) and oxygen reduction reaction (ORR) - two main pathways for photocatalytic H<sub>2</sub>O<sub>2</sub> generation.

As a result, the hydrazone-linked COF exhibited exceptional photocatalytic H<sub>2</sub>O<sub>2</sub> production without external sacrificial electron donors when irradiated with a 40 W blue LED ( $\lambda = 467$  nm). Interestingly, a significant amount of H<sub>2</sub>O<sub>2</sub> (550  $\mu\text{mol g}^{-1} \text{h}^{-1}$ ) was also produced under sunlight irradiation, which outperforms most organic photocatalysts under similar conditions, thus demonstrating a clean and sustainable pathway.

Furthermore, as-synthesized hydrazone-linked COFs can generate H<sub>2</sub>O<sub>2</sub> up to 21641  $\mu\text{mol g}^{-1} \text{h}^{-1}$  using an aqueous benzyl alcohol solution (water: benzyl alcohol = 90:10) by preventing the degradation of H<sub>2</sub>O<sub>2</sub>. This strategy of using a mixture of water-benzyl alcohol solution will be helpful in developing a continuous flow reactor for the sustainable production of H<sub>2</sub>O<sub>2</sub> and will reveal a laboratory-to-industry technology transfer for the benefit of mankind.

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## CSIR-NIScPR, India and CNRS, France Organised Indo-French Seminar on Open Science

Source: Press information Bureau Dt. 07 March 2025,

URL: <https://pib.gov.in/PressReleasePage.aspx?PRID=2109124>

The CSIR-National Institute of Science Communication and Policy Research, New Delhi (CSIR-NIScPR), in collaboration with the CNRS- Department for Open Research Data, Open Science, Publications, Research Data and High Performance Computing, Paris (CNRS-DDOR), organized a two-day Indo-French Seminar on “Open Horizons: Integrating Open Access, Open Data, and Computational Innovation” on March 5-6, 2025 at CSIR-NIScPR, Satsang Vihar Campus, New Delhi-110067.

This significant seminar was organized to deliberate on how India and France are taking a stride towards open access, open data and open science; how digital technologies and Open Source platform offer great promise in implementing an information-driven approach to advance science, promote collaborations, increase transparency and utilize tools for partnerships between science and society. The seminar was attended by researchers, scientists, and policymakers from India and France; provided a unique opportunity for open access information sharing and networking opportunities.

The inaugural session was attended by esteemed dignitaries from India and France with Dr. Antoine Petit, Chairman and CEO, CNRS, France; Prof. Ranjana Aggarwal, Director, CSIR-NIScPR; Prof. Nitin Seth, Director, CEFIPRA; Dr. Srinivasa Reddy, Director, CSIR-IICTon the dais.

"We are delighted to organize this event with CNRS, France, to promote open science and research data sharing," said Prof. Ranjana Aggarwal, Director, CSIR-NIScPR setting the tone for the

conference. Describing the relevance of the event she said, "This seminar marks an important step towards fostering international collaboration and advancing sharing of scientific research for all sections of the society." She also mentioned "One Nation One Subscription" initiative of Indian Government and its role in providing open access to larger number of stakeholders.

Prof. Nitin Seth, Director, Indo-French Centre for the Promotion of Advanced Research (CEFIPRA) recollected how they started with 1-2 calls annually to now with so many several dedicated partnerships in S&T between the two countries. He also shared his views about the expectations from this seminar. "Open access made scientific knowledge accessible, it brings a lot of opportunities", Dr. Srinivasa Reddy, Director CSIR-IICT shared his thoughts in the inaugural session. He also mentioned the collaborations CEFIPRA has had with CSIR-IICT from last several years.

From the National Centre for Scientific Research (CNRS), Dr. Antoine Petit, Chairman and CEO; Dr. Sylvie Rousset, Senior Scientist & Head, Open Research Data Department (DDOR) gave a brief of CNRS and DDOR, its objectives functions and roles they are playing in making open access of articles and data, a norm in scientific research. Dr. Kasturi Mandal, CSIR-NIScPR and Dr. Sylvie Rousset, CNRS-DDOR provided the overview of the program of two days seminar like topics of discussions, and takeaways from the sessions.

The first session of the seminar was designed on theme "Policies for Open Access, Open science in France and in India" was, chaired by Prof. Vivek Kumar Singh, Senior Adviser, NITI Aayog, Govt. of India. Dr. Marin Dacos from the French Ministry of Higher Education and Research discussed the benefits of open science like increase in academic efficiency, reproducibility, prevention of duplication, and increasing citation. He also shared highlights of French open science policies in the country. Dr. Remya Haridasan from the PSA Office, Govt. of India, discussed flagship 'One Nation One Subscription' (ONOS) initiative in detail like why it was needed, the impact it has on science dissemination and the hurdles faced by the stakeholders during the implementation. The other speakers who shared their thoughts on open science and data includes Dr. Sylvie Rousset and Mr. Mukesh Pund Chief Scientist, CSIR-NIScPR.

The second session was based on topic "Open Access: A Diversity of Routes". The session was chaired by Prof. Anirban Chakraborti, School of Computational and Integrative Sciences (SCIS), JNU, New Delhi. Dr. Bénédicte Kuntziger, CCSD, CNRS, during his talk said, "At CCSD, we promote open access through HAL, the French national open access repository, ensuring long-term, barrier-free access to publications. Notably, 167,751 full-text documents were deposited in 2024 alone, bringing the total to over 1.4 million full-text documents available through HAL as on January 2025", he added. Dr. Françoise Rousseau, Couperin Consortium shared the model through which they negotiate with major science publishers to advance open science. Other speakers including Dr. Subbiah Arunachalam from DST-CPR, IISc Bangalore, presented an overview of open access in India, highlighting the country's progress in promoting open access to research and Dr. Geetha Vani Rayasam, Head, CSIR-HRDG presented a perspective on open source and drug discovery, highlighting the potential of open source approaches in accelerating drug discovery and development.

The third session of day 1 was extension of session 2 under the theme "Open Access: A Diversity of Routes (Part II)". Session was chaired by Dr. Laurence El Khouri from CNRS-DDO. The speakers including Dr. Lidia Borrell-Damian, Science Europe discussed the benefits of Diamond Action Plan which proposes to align and develop common resources for the entire Diamond OA ecosystem. Prof. Rajeswari Raina from Shiv Nadar University asked researchers and policy makers to think step ahead while saying it's not about one scheme, one nation or one sector, we



have to see the global aspects and thus need to set the horizons and limits of open access at global level. Dr. Raphael Tournoy from Episciences discussed the importance of Overlay Journals.

All the sessions of day 1 concluded with Q&A, where experts answered questions from the audience and shared their insights on the future of open science. This was followed by Felicitation of the guests and speakers of the event.

The second day of the India-France seminar on Open Science and Research Data concluded successfully, featuring insightful discussions and presentations on computational innovation, research evaluation, and open data sharing. The day's proceedings began with a session on "R&D in Computational Innovation and Open Source Software," chaired by Dr. Avinash Kshitij, Principal Scientist, CSIR-NIScPR. The speakers included- Prof. Roberto Di Cosmo, INRIA, who discussed the "Software Heritage initiative. Prof. P. K. Suri, Delhi Technological University, delivered a talk on "Data Standardization in Agricultural. Dr. Sridhar Gautam, ICAR-Indian Institute of Horticultural Research, spoke on "Advancing R&D with Open Source Software, Open Access, and Open Data". Sh. G Mayli Muthu Kumaran Deputy Director General, National Informatics Center (NIC) discuss on the computational innovation and open source and elaborated on the initiative towards the R&D in computational innovation at NIC. This was followed by a session on "Reforming the Evaluation of Research," which featured presentations from: Dr. Lidia Borrell-Damian, Science Europe, discussed "Reforming Research Assessment and CoARA Initiative". Dr. Vinayak, Principal Scientist, CSIR-NIScPR spoke on "Some New Methods for Measuring Phases of Science." Dr. Moumita Koley from IISc, Bengaluru, discussed on the topic "Rethinking Research Assessment: Building an Efficient and Innovative Research Ecosystem in India" and Dr. Nishy. P, CSIR-NIIST, spoke on "Open Source for Research Evaluation and Future Trends".

The seminar also featured a session on "Open Data Sharing," with presentations from Ms. Alka Misra, Deputy Director General, NIC, who discussed the "Open Data sharing initiative of Govt. of India". Dr. Marin Dacos, French Ministry of Higher Education and Research, presented "An ecosystem for sharing and opening research data" and Dr. Naresh Kumar, Chief Scientist, CSIR-NIScPR, presented his talk on "Sharing data in Science.

The seventh session of the seminar having a panel discussion on "Future for Open Science, Open Data, and Open Source," featuring experts from various fields, including Dr. Sujit Bhattacharya; Dr. Laurence El Khouri, CNRS-DDOR; Dr. Roberto Di Cosmo, INRIA Software Heritage; Dr. Deepali Kuberkar, Tata Memorial Hospital; Dr. Kasturi Mandal, CSIR-NIScPR, New Delhi; Dr. Yogesh Dhoble, CSIR-IPU, New Delhi and Dr. Sandhiya Lakshmanan, CSIR-NIScPR.

The Indo-French Joint Seminar concluded with the valedictory session during which Dr. Naresh Kumar, Scientists, CSIR-NIScPR delivered the welcome address and highlights of the two-days intense deliberation on the Open Science, Open Source and Open Data in the R&D in Computational Innovation. Prof. Anirban Chakraborti from JNU address the need of balanced approach in moving towards the conduct of Open Science, Dr. Laurence and Dr Avinash Kshitij summarise the two-days deliberation amongst the 6 different topics, Mr. Mukesh Pund, CSIR-NIScPR shows his gratitude towards the Indian and French speakers, scholars, delegates and the all individuals involved in different roles during his address for Vote of Thanks.

### **About CSIR-NIScPR**

The CSIR-National Institute of Science Communication and Policy Research (NIScPR) is a premier institute in India, engaged in science communication, STI based policy studies and research.

### **About CNRS**

The French National Centre for Scientific Research (CNRS) is a government-funded research organization, dedicated to advancing scientific knowledge and innovation in France and globally.

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## **Department of Biotechnology Hosts the Ninth Webinar in its Webinar Series on Biomanufacturing and Biofoundry Initiative on the Theme “Biomanufacturing of Biopolymers**

**Source: Press Information Bureau, Dt. 07 March 2025,**

**URL: <https://pib.gov.in/PressReleasePage.aspx?PRID=2109105>**

The Department of Biotechnology, Government of India hosted the ninth Webinar in its Biofoundry and Bio manufacturing Initiative series on March 7, 2025. The session centered on "Bio manufacturing of Biopolymers," a crucial area under the BioE3 Policy, which was approved by the Union Cabinet in August 2024. The BioE3 Policy is designed to establish India as a global leader in bio-based innovations, emphasizing sustainable biomanufacturing across various thematic areas, including biopolymers. This Webinar served as a platform for academia, industry leaders, startups, and researchers to engage in discussions about advancements and opportunities in biopolymer biomanufacturing.

Dr. Vaishali Panjabi, Scientist 'F', DBT, highlighted the BioE3 Policy's vision to foster high-performance biomanufacturing. She informed that the ninth Webinar in this series focuses on '*Biomanufacturing of Biopolymers*'. India, given its academic and industrial strength, is poised to create a vibrant ecosystem for cost-effective biopolymer production. She mentioned the potential gaps, challenges in this sectors followed by strengths and opportunities to address the same.

Dr. Binod Parameswaran, CSIR-NIIST, Thiruvananthapuram mentioned the major differences between biopolymers, process involved along with challenges and limitations in biomanufacturing. Finally he also shared the key trends shaping the future of biopolymer R&D in India.

Dr. Ashvini Shete, Praj Industries Ltd. mentioned in detail the process involved in the production of Biopolymers and the challenges associated with its production. She emphasized on the importance of strain and feed stock selection, process optimization and downstream processing for biopolymer production. She mentioned that a Vibrant Ecosystem for Cost-Effective Biopolymer Production can be created in India based on the rich availability of feedstock and technology with in the country.

The session concluded with a vibrant Q&A segment moderated by DBT and BIRAC officials. Participants actively engaged with the experts, discussing challenges and opportunities in bio manufacturing of biopolymers.

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Dr. Ashvini Shete, Praj Industries Ltd. mentioned in detail the process involved in the production of Biopolymers and the challenges associated with its production. She emphasized on the importance of strain and feed stock selection, process optimization and downstream processing for biopolymer production. She mentioned that a Vibrant Ecosystem for Cost-Effective Biopolymer Production can be created in India based on the rich availability of feedstock and technology with in the country.

The session concluded with a vibrant Q&A segment moderated by DBT and BIRAC officials. Participants actively engaged with the experts, discussing challenges and opportunities in bio manufacturing of biopolymers.

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## **“India’s Scientific Leadership Now Women-Led”: Dr. Jitendra Singh on International Women’s Day**

**Dr. Jitendra Singh Hails Women Scientists: ‘From Participation to Leadership in India’s STEM Revolution’**

**Women at the Helm of India’s Space & Research Missions, Says Dr. Jitendra Singh**

**Source: Press Information Bureau Dt. 08 March 2025,**

**URL: <https://pib.gov.in/PressReleasePage.aspx?PRID=2109524>**

Now, women are taking the lead in various walks of life, as cited by Union Minister Dr. Jitendra Singh. “For example, India’s Aditya-L1 mission is headed by a woman, the Council of Scientific and Industrial Research (CSIR) and six of its laboratories are led by women, and the Chandrayaan-3 mission had a woman in a leadership role. This marks a significant shift in our scientific landscape,” he said while addressing the International Women’s Day 2025 celebrations at CSIR-National Physical Laboratory (CSIR-NPL). The event saw the participation of pioneering women scientists, including Nigar Shaji, Project Director of Aditya-L1; Kalpana Kalahasti, Associate Project Director of Chandrayaan-3; and Dr. N. Kalaiselvi, Director General of CSIR & Secretary DSIR—the first woman DG in CSIR’s 80-year history. With six women directors heading various CSIR labs, the Minister emphasized India’s rapid transformation in gender representation across science and technology.

During the event, the Minister released a video titled “CSIR Shakti: Celebrating Women in Science,” highlighting the contributions of women scientists in shaping India’s research landscape. He also felicitated women entrepreneurs who have successfully commercialized CSIR technologies, including Dr. Disha Ahuja for CSIR-IICT’s AGR Technology that converts market waste into cooking gas, Smt. Sudha Reddy for CSIR-CMERI’s E-Tractor innovation, and Smt. Shikha Virmani for CSIR-IIIM’s Lavender Products under the Purple Revolution initiative. Additionally, the Minister launched a compendium titled “CSIR ASPIRE Women Scientist Awardees,” documenting the achievements of women scientists supported by CSIR. As a special recognition, he also felicitated Smt. Kalpana Kalahasti, Associate Project Director of Chandrayaan-3, for her pivotal role in India’s lunar mission.

Speaking at the event, Dr. Jitendra Singh reflected on the changing landscape of Indian science and administration, noting that women have moved beyond participation to leading key national projects. “We have graduated from an era of women’s participation to a women-led process,” he remarked, adding that scientific fields once dominated by men are now witnessing an influx of talented women leading from the front. He praised Dr. Kalaiselvi for breaking historical barriers and lauded the achievements of women scientists in major space and atomic energy missions.

The Minister cited the examples of top-ranking women in India’s civil services, a domain that was once male-dominated but now sees women consistently securing top positions. “There was a time when women were rare in STEM education, let alone leadership roles. Today, not only are they excelling, but they are also setting new benchmarks,” he said. He noted that the Union Public Service Commission (UPSC) results in recent years have been overwhelmingly led by women, reflecting a broader shift in India’s socio-professional fabric.

Dr. Jitendra Singh also highlighted Prime Minister Narendra Modi’s initiatives in promoting women’s empowerment in science, from increasing women’s representation in Republic Day parades to opening up defense institutions like Sainik Schools and military academies for female cadets. He shared that this year, for the first time, PM Modi handed over his personal social media handle to selected women achievers on International Women’s Day—two of whom hailed from India’s space and nuclear sectors.

Further emphasizing India’s commitment to gender inclusivity in space exploration, Dr. Singh revealed that the upcoming test flight for the Gaganyaan mission will feature a robotic astronaut named ‘Vyommitra,’ a female humanoid. This, he said, is a symbolic acknowledgment of the growing role of women in India’s space endeavours.

During the event, Dr. N. Kalaiselvi, Director General of CSIR and Secretary, DSIR, highlighted the growing role of women in science and technology, emphasizing that today’s women are not just participants but leaders in shaping India’s scientific landscape. She reflected on the transformation in societal perceptions, noting that women were once seen as emotionally driven, but are now recognized for their resilience and leadership. She called for greater encouragement of young girls to enter STEM fields, asserting that “today’s youth are not tomorrow’s leaders, but today’s leaders themselves.” Dr. Kalaiselvi expressed pride in the increasing number of women taking up leadership roles, and urged women to seize opportunities in science and research. She also acknowledged the unwavering support of the government, particularly under the leadership of Prime Minister Narendra Modi and Dr. Jitendra Singh, in fostering an inclusive and empowering ecosystem for women in STEM.

As the event concluded, Dr Jitendra Singh expressed his optimism for a future where gender parity in science is not just an aspiration but a norm. “The scientific community in India is witnessing a historic transformation. The next frontier is not just to encourage women to enter STEM but to ensure they lead and inspire generations to come.”

The celebrations at CSIR-NPL underscored a clear message—India’s scientific future is increasingly being shaped by its women leaders, and their contributions will be instrumental in defining the country’s global standing in innovation and research.

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**Dr Jitendra Singh says, India’s Space technology is no longer confined only to the launch of rockets, but is also playing a major role in revolutionising governance by supplementing transparency, grievance redressal and citizen participation.**

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**Space Technology Revolutionizes Governance, Agriculture, Defence, and More: Dr. Jitendra Singh Highlights Achievements at ‘Space-Tech for Good Governance Conclave’**

**“India Space budget almost tripling from 5,615 crores in 2013-14 to 13,416 crores in 2025-26 is a testimony of Government’s Commitment: MoS Space Dr. Singh**

**Source: Press Information Bureau, Dt. 08 March 2025,**

**URL: <https://pib.gov.in/PressReleasePage.aspx?PRID=2109465>**

Union Minister Dr. Jitendra Singh has said that India’s Space technology is no longer confined only to the launch of rockets, but is also playing a major role in revolutionising governance by supplementing transparency, grievance redressal and citizen participation. In the process, there is reduced scope of corrupt practices, more discipline in observing timelines and less of so called red tapism, he added.

Addressing the “Good Governance’ Conclave organized by ‘Indian Institute of Democratic Leadership’, the Minister underscored the growing significance of India’s space sector as an attractive avenue, not only for startups and livelihood generation but also for transforming the governance practices.

Emphasizing Prime Minister Narendra Modi's leadership, Dr Jitendra Singh explained how space technology is playing a pivotal role in bringing ease of living for common citizens through good governance.

In his inaugural address, Dr. Jitendra Singh captivated the audience by showcasing how India's space capabilities have expanded far beyond rocket launches. He revealed that space technology has now become integral to every Indian household, powering various governance services enabled by satellites from the Department of Space.

Calling Space Tech: A Pillar of Governance and Empowerment, Union Minister of State (Independent Charge) for Science and Technology, Minister of State (Independent Charge) for Earth Sciences, MoS PMO, Department of Atomic Energy and Department of Space, MoS Personnel, Public Grievances and Pensions highlighted several governance models enabled by space technology, including the transformative "Swamitva Yojana". This initiative, which leverages satellite mapping for land record management, has empowered citizens by eliminating the need for reliance on revenue officials for land record verification.

Dr Jitendra Singh pointed out that space technology also plays a critical role in national defense, border surveillance, and geopolitical intelligence, contributing significantly to India's security.

The Minister also emphasized space technology's role in India's agricultural sector—one of the major pillars of the economy—stating that it has become an invaluable force multiplier in improving decision-making, weather forecasting, communication, disaster preparedness, early warning systems, urban planning, and security.

Dr. Jitendra Singh proudly noted that India's neighbouring countries increasingly depend on India's satellite systems, further strengthening India's position as a regional space leader.

Addressing India's growing stature in global space exploration, Dr. Jitendra Singh remarked, "Gone are the days when we used to take the lead from others. Now, India sets the cue for others to follow." He cited the successful Chandrayaan-3 mission, which made India the first nation to reach the southern pole of the Moon, as a prime example of India's leadership in space technology.

The Union Minister credited Prime Minister Modi's vision and bold steps in opening the space sector for private sector participation. He pointed to the National Space Innovation and Applications (NSIL) and In-SPACe, which have fostered collaboration between the government and non-government entities, driving India's space economy to \$8 billion. Dr. Singh projected the space sector to surge to \$44 billion in the near future, marking a nearly fivefold growth.

Dr. Jitendra Singh shared a testament to the government's commitment to space development: India's space budget has tripled from 5,615 crores in 2013-14 to 13,416 crores in the recent budget, a staggering 138.93% increase. Additionally, ISRO recently celebrated its 100<sup>th</sup> satellite launch with the NAVIC satellite, a key milestone in India's space journey.

Dr. Singh also lauded India's burgeoning space startup ecosystem, noting that the first-generation space startups have now matured into successful global enterprises. The number of startups has grown from one to more than 300, positioning India as a key revenue generator in the global space market. India has launched 433 foreign satellites, with 396 of them launched since 2014 under Prime Minister Modi's leadership, generating \$192 million USD and 272 million Euros in revenue.

Turning the spotlight to future space missions, Dr. Singh shared India's roadmap for space exploration. He announced that trials for the Gaganyaan Mission, India's first human spaceflight mission, are set to begin with the ROBO Mission by the end of 2025. Four astronauts have been

identified for the mission, with one already invited by the US to visit the International Space Station. By 2035, India aims to establish the Bharat Antariksh Station, and Dr. Singh boldly declared India's goal to send its first astronaut to the Moon by 2040.

Dr. Jitendra Singh also touched upon India's scientific advancements in AI, quantum technology, and bioengineering, solidifying the nation's position as a champion in space and other futuristic technologies. He reaffirmed India's commitment to climate goals, space debris surveillance, and capture technologies, reinforcing the country's role as a global leader in addressing climate concerns through space-based solutions.

With India's space sector growing at an unprecedented pace, Dr. Jitendra Singh's announcement paints a bold picture of India's future as a space powerhouse, driving innovation, economic growth, and global collaboration.

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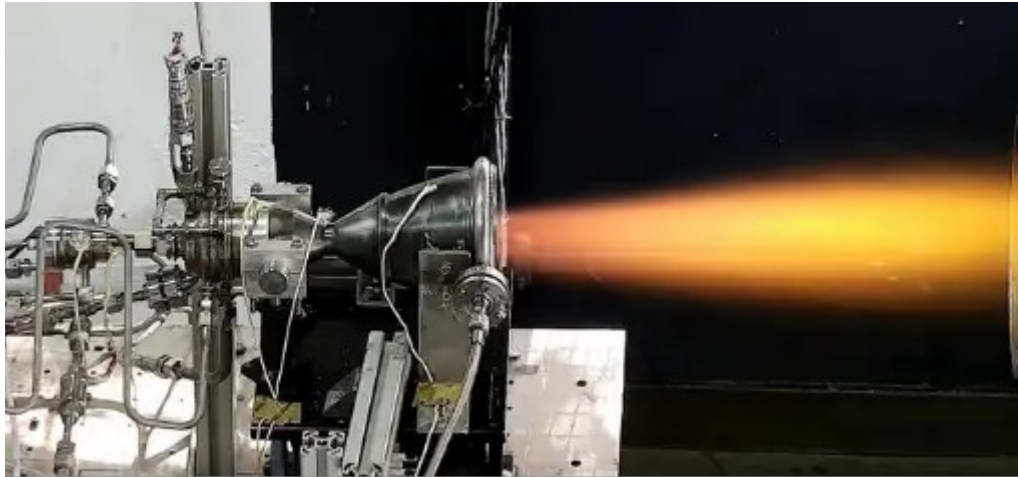
## **Multiple restarts of Launch Vehicle Stages - ISRO successfully carried out ignition trial using Spark Torch Igniter**

**Source: ISRO Website Dt. 07 March 2025,**

**URL: <https://www.isro.gov.in/ISROsuccessfullycarriedoutSparkTorchIgniter.html>**

ISRO is developing Lox-Methane engine and stages for the Next Generation Launch Vehicle, which uses a reusable booster stage and two expendable upper stages. In this configuration, multiple restarts will be essential for the booster stage recovery as well as restarting the upper stage for mission flexibility. The Liquid Propulsion Systems Centre (LPSC) of ISRO is developing a spark torch igniter for the future LOX-Methane stages with the following advantages: multi-restart capability, higher ignition reliability and also cleaner combustion products.

On March 03, 2025, a demonstration model of the spark torch igniter was successfully tested using the GSLV Cryogenic Upper Stage vernier engine with gaseous oxygen & gaseous hydrogen as propellant. The test was conducted at Combustion Research Facility in LPSC and smooth ignition was obtained. The test was conducted for a total duration of 3 seconds and all engine parameters obtained during the test were normal & as expected. Subsequent tests are also planned to refine the performance.



*CUS steering engine ignition test*

## **Digantara commissions world's first commercial space surveillance satellite**

**Source: Buisness standard      Dt. 08 March 2025,**

**URL: [https://www.business-standard.com/companies/news/digantara-commissions-world-s-first-commercial-space-surveillance-satellite-125030800599\\_1.html](https://www.business-standard.com/companies/news/digantara-commissions-world-s-first-commercial-space-surveillance-satellite-125030800599_1.html)**

The world's first commercial space surveillance satellite, capable of tracking objects as small as 5 centimetres orbiting the Earth, was commissioned on Saturday as it captured images over South America, the Bengaluru-based start-up Digantara said.

Digantara had launched the space surveillance satellite SCOT (Space Camera for Object Tracking) on January 14 aboard SpaceX's Transporter-12 rocket.

The satellite started operations on Saturday.

"Space just ran out of hiding spots," the start-up said in a post on X.

In a statement, the company said the SCOT satellite achieved first light on Saturday and its inaugural image while passing over South America -- a breathtaking view of Earth's limb, with the city of Buenos Aires glowing against the planet's curvature.

"SCOT's first image is more than a technical milestone; it's a symbol of our team's resilience and unwavering commitment to safeguarding Earth's orbits for generations to come," said Digantara CEO Anirudh Sharma. The satellite is designed to track and monitor objects as small as 5 centimetres, with a high revisit rate for frequent and precise observations of orbital activity.

As space becomes increasingly congested, this capability is essential for mitigating collision risks and promoting sustainable space operations by providing accurate and dependable data to satellite operators and regulatory bodies.

SCOT has been deployed in a sun-synchronous orbit that allows it to track objects in Low Earth Orbit with more efficiency than existing sensors, which are restricted by fields of view, weather conditions and geographic limitations.

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