

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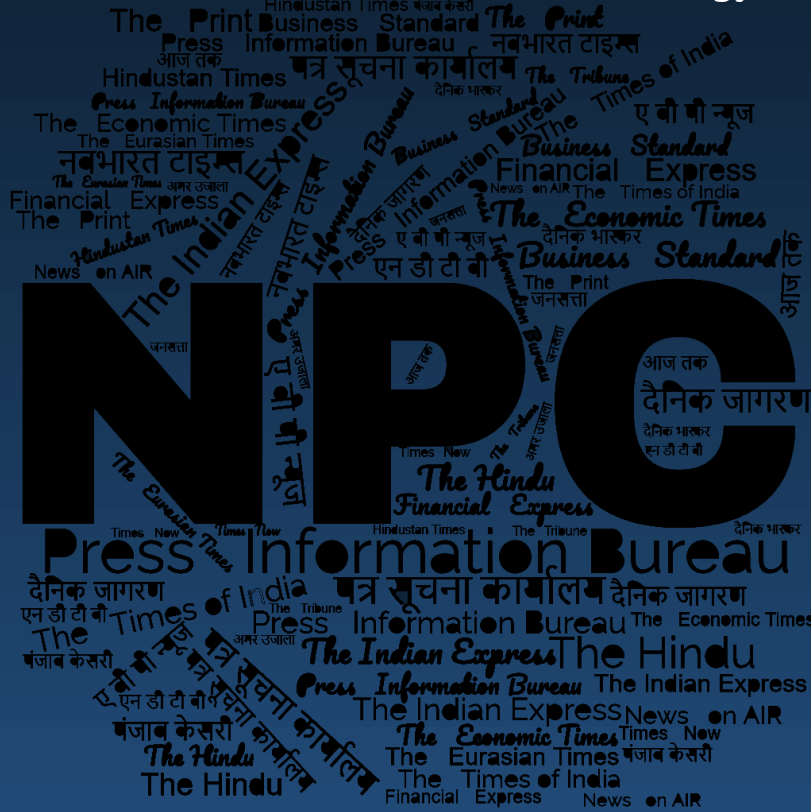
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डीआरडीओ समुदाय को डीआरडीओ प्रौद्योगिकियों, रक्षा प्रौद्योगिकियों, रक्षा नीतियों, अंतर्राष्ट्रीय संबंधों और विज्ञान एवं प्रौद्योगिकी की नूतन जानकारी से अवगत कराने हेतु दैनिक सेवा

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Press Information Bureau
Government of India

Ministry of Defence

Thu, 18 Apr 2024

Indigenous Technology Cruise Missile Successfully Flight-Tested by DRDO off the Odisha Coast

Defence Research and Development Organisation (DRDO) conducted a successful flight-test of Indigenous Technology Cruise Missile (ITCM) from the Integrated Test Range (ITR), Chandipur off the coast of Odisha on April 18, 2024. During the test, all subsystems performed as per expectation. The missile performance was monitored by several Range Sensors like Radar, Electro Optical Tracking System (EOTS) and Telemetry deployed by ITR at different locations to ensure complete coverage of the flight path. The flight of the missile was also monitored from the Su-30-Mk-I aircraft of the Indian Air Force.

The missile followed the desired path using way point navigation and demonstrated very low altitude sea-skimming flight. This successful flight test has also established the reliable performance of the indigenous propulsion system developed by Gas Turbine Research Establishment (GTRE), Bengaluru.

The missile is also equipped with advanced avionics and software to ensure better and reliable performance. The missile is developed by Bengaluru-based DRDO laboratory Aeronautical Development Establishment (ADE) along with contribution from other laboratories and Indian industries. The test was witnessed by many senior scientists from various DRDO laboratories along with the representatives from the production partner.

Raksha Mantri Shri Rajnath Singh has congratulated DRDO for the successful flight-test of the ITCM and stated that successful development of indigenous long range subsonic cruise missile powered by indigenous propulsion is a major milestone for Indian defence R&D.

Secretary Department of Defence R&D & Chairman DRDO Dr Samir V Kamat congratulated the entire team of DRDO on successful conduct of the ITCM launch.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2018171>

स्वदेशी क्रूज मिसाइल का सफल परीक्षण, कम ऊंचाई से जाकर दुश्मन के हर ठिकाने को करेगी तबाह

रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) ने आज ओडिशा के तट पर एकीकृत परीक्षण रेंज, चांदीपुर से स्वदेशी तकनीक से निर्मित क्रूज मिसाइल की उड़ान का सफल परीक्षण किया। परीक्षण के दौरान मिसाइल की सभी उप-प्रणालियों ने आशा के हिसाब से प्रदर्शन किया। मिसाइल के प्रदर्शन की निगरानी के लिए एकीकृत परीक्षण रेंज-आईटीआर ने विभिन्न जगहों पर रडार, इलेक्ट्रो ऑप्टिकल ट्रैकिंग प्रणाली (ईओटीएस) और टेलीमेट्री जैसे कई रेंज सेंसर लगाए थे। भारतीय वायुसेना के एसयू-30-एमके-1 विमान से भी मिसाइल की उड़ान पर नजर रखी गई।

मिसाइल ने मार्गदर्शक समुद्री प्रणाली का उपयोग करके तय रास्ते का अनुसरण किया और बहुत कम ऊंचाई वाली समुद्री-स्किमिंग उड़ान का प्रदर्शन किया। इस सफल उड़ान परीक्षण ने गैस टर्बाइन अनुसंधान प्रतिष्ठान (जीटीआरई), बेंगलुरु द्वारा विकसित स्वदेशी संचालन प्रणाली के विश्वसनीय प्रदर्शन को भी स्थापित किया है। बेहतर और विश्वसनीय प्रदर्शन सुनिश्चित करने के लिए यह मिसाइल उन्नत एवियोनिक्स और सॉफ्टवेयर से भी लैस है।

इस मिसाइल को अन्य प्रयोगशालाओं और भारतीय उद्योगों के योगदान के साथ बेंगलुरु स्थित रक्षा अनुसंधान एवं विकास संगठन प्रयोगशाला वैमानिकी विकास प्रतिष्ठान ने तैयार किया है। परीक्षण के दौरान विभिन्न रक्षा अनुसंधान एवं विकास संगठन प्रयोगशालाओं के कई वरिष्ठ वैज्ञानिकों सहित इसके निर्माण में भागीदार प्रतिनिधि भी मौजूद थे। रक्षा मंत्री राजनाथ सिंह ने स्वदेशी तकनीक से निर्मित क्रूज मिसाइल के सफल उड़ान-परीक्षण के लिए रक्षा अनुसंधान एवं विकास संगठन को बधाई दी है। उन्होंने कहा कि स्वदेश संचालित लंबी दूरी की सबसोनिक क्रूज मिसाइल का सफल विकास भारतीय रक्षा अनुसंधान एवं विकास की एक प्रमुख उपलब्धि है।

रक्षा अनुसंधान एवं विकास विभाग के सचिव और डीआरडीओ के अध्यक्ष डॉ. समीर वी कामत ने स्वदेशी तकनीक से निर्मित क्रूज मिसाइल लॉन्च के सफल आयोजन पर रक्षा अनुसंधान एवं विकास संगठन की पूरी टीम को बधाई दी।

<https://hindi.news18.com/news/nation/indigenous-technology-cruise-missile-successfully-flight-tested-by-drdo-off-the-odisha-coast-8249387.html>



DRDO Successfully Test Fires Indigenous Long Range Subsonic Cruise Missile

The Defence Research and Development Organisation (DRDO) conducted a successful flight test of a “long range subsonic indigenously developed cruise missile” from the Integrated Test Range (ITR) in Chandipur off the coast of Odisha on April 18, it announced on Thursday.

“The missile followed the desired path using waypoint navigation and demonstrated very low altitude sea-skimming flight. During the test, all subsystems performed as per expectation,” DRDO said in a statement.

The details or the specifications of the missile were not mentioned but the missile looked a lot similar to the Nirbhay subsonic cruise missile that has been tested several times.

Several range sensors

The performance of the Indigenous Technology Cruise Missile (ITCM) was monitored by several range sensors like radar, Electro Optical Tracking System (EOTS) and telemetry deployed by ITR at different locations to ensure complete coverage of the flight path, the statement said. “The flight of the missile was also monitored from the Su-30-Mk-I aircraft of the Indian Air Force.”

The missile is developed by Bengaluru-based DRDO laboratory Aeronautical Development Establishment (ADE) along with contribution from other laboratories and domestic industries. This successful flight test has also established the reliable performance of the indigenous propulsion system developed by Gas Turbine Research Establishment (GTRE), Bengaluru, the organisation stated.

The cruise missile is also equipped with advanced avionics and software to ensure better and reliable performance, the statement said adding Defence Minister Rajnath Singh congratulated DRDO for the successful flight test of the ITCM and stated that “successful development of indigenous long range subsonic cruise missile powered by indigenous propulsion is a major milestone for Indian defence R&D.”

<https://www.thehindu.com/news/national/drdo-successfully-test-fires-indigenous-long-range-subsonic-cruise-missile/article68080210.ece>



Thu, 18 Apr 2024

Explained: How does DRDO's Latest Naval Technology SPACE Work?

In a major milestone in the enhancement of naval technology, the Defence Research and Development Organisation (DRDO) inaugurated a state-of-the-art Submersible Platform for Acoustic Characterisation and Evaluation (SPACE) at Kulamavu in Idukki of Kerala on Wednesday.

Inaugurated by the DRDO chief Samir V Kamat at the Underwater Acoustic Research Facility, the SPACE, has been designed as a premier testing and evaluation hub for sonar systems destined for the Indian Navy onboard various platforms including ships, submarines and helicopters.

It has been set up by the DRDO's Naval Physical & Oceanographic Laboratory.

How does SPACE work?

SPACE will consist of two distinct assemblages -- a platform which floats on the water surface, and a submersible platform which can be lowered to any depth up to 100 meters using winch systems.

Upon completion of operations, the submersible platform can be winched up and docked with the floating platform.

The SPACE will mainly be utilised for the evaluation of complete sonar systems, allowing for quick deployment and easy recovery of scientific packages such as sensors and transducers.

The technology will be suitable for survey, sampling, and data collection of air, surface, mid-water, and reservoir floor parameters using modern scientific instrumentation.

It will cater to the needs of data processing and sample analyses in modern, well-equipped scientific laboratories heralding a new era of Anti-Submarine Warfare research capabilities.

In 2022, the defence ministry said that the DRDO launched the Hull Module of Submersible Platform for Acoustic Characterization & Evaluation (SPACE) facility at the Naval Physical & Oceanographic Laboratory (NPOL) in Kerala's Kochi.

<https://newsable.asianetnews.com/india-defence/explained-how-drdo-s-space-naval-technology-works--sc4t71>

Defence News

Defence Strategic: National/International



Press Information Bureau
Government of India

Ministry of Defence

Fri, 19 Apr 2024

Vice Admiral Dinesh Kumar Tripathi Appointed as the Next Chief of the Naval Staff

The Government has appointed Vice Admiral Dinesh Kumar Tripathi, PVSM, AVSM, NM, presently serving as the Vice Chief of the Naval Staff, as the next Chief of the Naval Staff with effect from the afternoon of April 30, 2024. The present Chief of the Naval Staff, Admiral R Hari Kumar, PVSM, AVSM, VSM retires from service on April 30, 2024.

Born on May 15, 1964, Vice Admiral Dinesh Kumar Tripathi was commissioned into the Executive Branch of the Indian Navy on July 01, 1985. A Communication and Electronic Warfare specialist, he has had a long and distinguished service spanning nearly 39 years. Prior to taking over as the Vice Chief of the Naval Staff, he had served as the Flag Officer Commanding-in-Chief, Western Naval Command.

VAdm DK Tripathi has commanded Indian Naval Ships Vinash, Kirch and Trishul. He has also held various important operational and staff appointments which include Fleet Operations Officer of the Western Fleet; Director of Naval Operations; Principal Director, Network Centric Operations and Principal Director, Naval Plans at New Delhi.

As a Rear Admiral, he has served as the Assistant Chief of Naval Staff (Policy and Plans) and the Flag Officer Commanding Eastern Fleet. In the rank of Vice Admiral, he has served as Commandant of the prestigious Indian Naval Academy, Ezhimala; Director General of Naval Operations; Chief of Personnel and Flag Officer Commanding-in-Chief, Western Naval Command.

An alumnus of Sainik School, Rewa and National Defence Academy, Khadakwasla, Vice Admiral Dinesh Kumar Tripathi has undergone courses at the Defence Services Staff College, Wellington; Naval Higher Command Course, Karanja and Naval Command College at the United States Naval War College, USA.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2018213>



Press Information Bureau
Government of India

Ministry of Defence

Thu, 18 Apr 2024

AFMS & IIT Kanpur to Collaborate on Developing Technologies to Address Health Problems Faced by Soldiers in Difficult Terrains

The Armed Forces Medical Services (AFMS) signed a Memorandum of Understanding (MoU) for collaborative research and training with Indian Institute of Technology (IIT) Kanpur on 18 April 2024. The MoU was signed by Director General Armed Forces Medical Services Lt Gen Daljit Singh & Officiating Director, IIT Kanpur Prof S Ganesh. Under this MoU, AFMS and IIT Kanpur will team up to undertake research and develop new technologies to address health problems faced by soldiers in difficult terrains.

IIT Kanpur will also provide technical expertise for developing AI diagnostic models, at Armed Forces Centre for Computational Medicine established in Armed Forces Medical College, which is first of its kind amongst medical colleges in India. Under the ambit of this MoU, faculty exchange program, joint academic activities and development of training modules will also be planned.

On this occasion, Lt Gen Daljit Singh informed that AFMS is dedicated to provide highest level of medical care to soldiers and collaboration with institutes of national importance like IIT is a significant step towards this commitment. Prof S Ganesh emphasised the need for inter-professional collaboration and utilisation of advanced technologies like computational medicine and AI in health care.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2018190>

THE ECONOMIC TIMES

Thu, 18 Apr 2024

CDS Asks Military, DRDO to Work with Startups to Get Cutting-edge Space Tech to Reduce Gap with Adversaries

In an effort to boost collaboration between the Indian space and defence sectors, Chief of Defence Staff General Anil Chauhan today asked the three defence forces and DRDO to engage with the Space industry and startups to develop cutting-edge technology to reduce the gap with the adversaries.

In his virtual address, General Chauhan said, "I will call upon DRDO to deeply engage with the Indian startup community in partnership with the Indian space industry to develop cutting-edge solutions that would help reduce our technology gap vis-a-vis our adversaries."

General Chauhan said that there is a need to develop and update our requisite doctrines to ensure that space and cyber elements are deeply integrated at strategic, operational and tactical levels. Dwelling on the scope of business for the space industry, he said, "I can say that there is enough space for everyone to grow."

"I wish all the startups in the space domain would graduate to become unicorns and then flourish as global partners in the times to come," he added.

The Chief of Defence Staff was speaking at the Indian Defence Space Symposium 2024, where the inaugural event included Chief Guest Admiral R Hari Kumar, Chief of the Naval Staff, Indian Navy, Guest of Honour Samir V Kamat, Chairman, DRDO and various other dignitaries from across the ministries, defence and space industries.

The first day of the event witnessed various sessions and panel discussions with experts from the defence, space sector to deliberate on a wide range of topics like challenges in the sectors, China's defence space capability, etc.

Addressing the inaugural session, Chief of Naval Staff, Admiral R. Hari Kumar, said, "It is in our aspiration to be AtmaNirbhar and I see the biggest congruence of and convergence in action between space and the sea. The Bhartiya Nausena has resolved to be a fully Atmanirbhar force by 2047 and we actively seek the support of our partners in the space industry in our relentless pursuit of the same. In the vast expanses of the maritime domain, satellite connectivity provides us with reliable and secure communication, even in the most remote expanses of our areas of operation. High-bandwidth SATCOM links facilitate real-time voice, data and video transmission, ensuring seamless command, control, communication and coordination across diverse theatres of operation as we strive to ensure safe, secure and stable seas for all."

"Space technology has indeed emerged as the key enabler for bolstering maritime security through real-time and responsive maritime domain awareness, offering invaluable insight into movement, vessel tracking, illegal fishing detection, disaster management and environmental protection. Looking ahead, synergy with several space agencies and industries and initiatives like IDEX promised further advancements that encourage innovation and self-reliance by pooling resources across academia, industry and startups," General Chauhan said.

"I would encourage the space sector, MSMEs and start-ups to borrow a leaf from our successful initiatives in indigenization. And similar to the innovations in the space sector through IDEX, Bhartiya Nausena, with the aim of forwarding the technology curve, has been working alongside MSMEs, start-ups, academia, students, innovators and dreamers through our three-tier organisation, the Naval Innovation and Indigenization Organisation (NIIO). By fostering collaboration and embracing emerging technologies, together we can unlock new frontiers of exploration while ensuring the safety, security and prosperity of our great nation," he added.

Samir V Kamat, Chairman, Defence Research and Development Organisation (DRDO), speaking at the inaugural day, said, "Space situational awareness, space-based surveillance, and launch on demand capability are some areas where we need to develop capabilities further, these are critical areas. And we can do this if we all work together. It is indeed a very good sign, that all of us are taking space and defence collaboration seriously. This is one area that is now going to be a key focus area. We are willing to work with startups and industry and we are also willing to fund R&D in this area. IDEX already has 75 challenges, but we also have another mechanism called the Technology Development Fund, where we can fund up to 50 crore. If there are any good projects

where any start-ups or MSMEs are present today and if you have any good proposals, you can approach us."

Lieutenant General AK Bhatt, DG of the Indian Space Association, emphasised in his vote of thanks the need to focus on discussions around DefSpace challenges to take it forward and to get an outcome for the users, i.e., the services. He also informed the audience about the recent launch of the Earth observation satellite by TASL, a one-to-one model of which was also available in the exhibition. The DG also informed the audience of Euroconsult's study on the social impact of space initiated by ISRO.

The ongoing symposium is focusing on creating a platform for all stakeholders who have a keen interest in boosting India's military space capability and plans. The platform brings together experts from multiple domains to discuss the latest trends and challenges in the field of defence space, making it an excellent networking opportunity for attendees from the defence, DRDO, and government sectors, as well as industry professionals, to collaborate.

<https://economictimes.indiatimes.com/news/defence/cds-asks-military-drdo-to-work-with-startups-to-get-cutting-edge-space-tech-to-reduce-gap-with-adversaries/articleshow/109408785.cms>



Thu, 18 Apr 2024

Space will Cast its Influence on Air, Maritime and Land Domains: Chief of Defence Staff

Chief of Defence Staff (CDS) General Anil Chauhan has said he believes that space is already an established domain of warfare and it will "cast its influence" on air, maritime and land domains.

In a recorded video address that was played at the inaugural session of the three-day Indian Defence Space Symposium in Delhi on Thursday, General Chauhan also said that "space diplomacy" will soon become a reality.

Navy Chief Admiral R Hari Kumar, Defence Research and Development Organisation (DRDO) Chairman Samir V Kamat and other senior officers of the armed forces attended the event held at the Manekshaw Centre here.

In his address, General Chauhan underlined the role of space evolving in future warfare.

"I will touch upon where we are and where we need to go," he said.

"Space is called the final frontier. Space is infinite in its expanse and is also expanding. Like all other frontiers, it is difficult to define its edges very clearly. Mankind has a long way to go to unravel the mystery of space. India wants to be part of that journey," the CDS said.

He also spoke about the four "cosmonauts under training" as part of India's "Gaganyaan" programme.

"Space is also referred to as an emerging domain of warfare. I believe that it is already an established domain of warfare. My belief is premised on the fast-paced development occurring in this particular domain," he said.

General Chauhan said the history of warfare has "taught us that in any war, the initial contest generally occurs in a new domain".

The new domain also influences the battles in older domains, he added.

“Initially, the naval power was able to influence battles on land. Later, air power influenced war at land and seas. It is my belief that now, space will cast its influence on air, maritime and land domains,” General Chauhan said in his video address.

Terming space a “global commons”, he said there can be “no concept of sovereignty in space”.

The CDS also said “space diplomacy will soon become a reality”.

One does not have to be a neighbour to extend cooperation in space to friendly nations. Distances and geopolitical separations might be of “advantage in defence space cooperation”, he added.

<https://indianexpress.com/article/india/space-air-maritime-land-domains-chief-of-defence-staff-9277329/>

ThePrint

Thu, 18 Apr 2024

Army Chief Attends Opening Ceremony of India-Uzbekistan Joint Military Exercise in Termez

Army Chief General Manoj Pande on Thursday visited the training area and attended the opening ceremony of India-Uzbekistan joint military exercise ‘DUSTLIK’ in Termez, sources said.

General Pande is visiting Uzbekistan from April 15-18 to explore new avenues of bilateral military collaboration.

Exercise ‘DUSTLIK’ aims to foster military cooperation and enhance combined capabilities to execute joint operations in mountainous as well as semi-urban terrain. It would focus on high degree of physical fitness, joint planning, joint tactical drills and basics of special arms skills, the sources said.

General Pande visited the training area and attended the opening ceremony of the exercise today. He was accompanied by Deputy Minister of Defence for Combat Training and the Chief of Southern Operations Command from the Uzbekistan side, they said. On arrival at the exercise area, General Pande was briefed by the contingent commanders about the exercise plan.

Post briefing, he witnessed the training activities that included display of martial arts and other tactical activities.

General Pande also addressed and interacted with troops of both contingents and appreciated their hard work and joint efforts while undertaking this exercise.

He complimented the contingents for great demeanour and professional conduct.

The Army Chief underscored the importance of growing partnership between the two countries and the armed forces.

He undertook a “windshield tour” of the training facilities and visited the Termez Museum, the sources said, adding General Pande also interacted with media.

“It will enable the two sides to share their best practices in tactics, techniques and procedures of conducting joint operations. The exercise will also facilitate developing inter-operability, bonhomie and camaraderie between the soldiers of both countries,” the sources said.

<https://theprint.in/india/army-chief-attends-opening-ceremony-of-india-uzbekistan-joint-military-exercise-in-termez/2046729/>

In \$375 Million Defence Deal, India to Deliver BrahMos Missiles to Philippines

India is all set to complete its first major defence equipment export order on Friday by delivering the first batch of BrahMos supersonic cruise missiles to the Philippines.

An Indian Air Force C-17 Globemaster jet will be taking off carrying the cruise missiles from India to the Philippines on Friday, defence officials said.

With this, India would be finally completing the storage-building space on one of the Philippines' islands as part of the \$375-million deal signed in January 2022.

The defence deal, which was the first major international export order for the Indian defence sector, is for a shore-based variant of an anti-ship cruise missile, with a range of 290 km.

While India now has longer-range missiles in its arsenal, the one being delivered to the Philippines is that of the original shorter version.

In March 2022, India signed a key pact with the Philippines, which paved the way for government-to-government deals on BrahMos and other defence collaborations.

<https://www.indiatoday.in/india/story/in-375-million-defence-deal-india-to-deliver-brahmos-missiles-to-philippines-2528972-2024-04-19>

Science & Technology News

United News of India
India's Multi Lingual News Agency

Thu, 18 Apr 2024

ISRO Planning 2nd Test Flight of Uncrewed Gaganyaan Mission on Apr 24 : Somanath

The Indian Space Research Organisation (ISRO) will be embarking on achieving yet another significant milestone as part of its Gaganyaan mission next week.

Having declared that 2024 will be the year of India's prestigious first-ever human space flight mission

Gaganyaan, the Space Agency has announced that it will carry out the second uncrewed mission, a test vehicle flight mission and an airdrop test next week.

"The airdrop test will happen on April 24", ISRO Chairman said on the sidelines of an event organised.

by the Astronautical Society of India (ASI) at Ahmedabad on Wednesday, according to media reports.

This test flight mission will be followed by two more uncrewed missions that will take place next year.

"If everything goes well, then the manned mission will be held by the end of next year," he said.

Buoyed by the success of the third Lunar mission Chandrayaan-3, when India became the first country to land on the hitherto unexplored South polar region of the Moon and the first Sun Mission Aditya-L1 that reached the Halo orbit of Lagrange Point (L1) to comprehensively study the outer atmosphere of the most hottest planet, ISRO is all set for the second test flight of Gaganyaan uncrewed mission.

ISRO said that the Halo-Orbit Insertion (HOI) of its solar observatory spacecraft, Aditya-L1 was accomplished on January 6, 2024.

The orbit of Aditya-L1 spacecraft is a periodic Halo orbit which is located roughly 1.5 million km from earth on the continuously moving Sun-Earth line with an orbital period of about 177.86 earth days. This Halo orbit is a periodic, three-dimensional orbit at L1 involving Sun, Earth and a spacecraft. This specific halo orbit is selected to ensure a mission lifetime of 5 years, minimising station-keeping manoeuvres and thus fuel consumption and ensuring a continuous, unobstructed view of sun.

It may be noted that in October, 2023, ISRO successfully conducted In-flight Abort Demonstration of Crew Escape System (CES) at Mach number 1.2 with the newly developed Test Vehicle followed by Crew Module separation and safe recovery.

The objectives included Flight demonstration and evaluation of Test Vehicle sub systems, evaluation of Crew Escape System including various separation systems, Crew Module characteristics and deceleration systems demonstration at higher altitude and its recovery.

Following this success, ISRO said "TV D1 Test Flight is accomplished. Crew Escape System performed as intended. Mission Gaganyaan gets off on a successful note".

ISRO's Human Space Flight Centre (HSFC) will spearhead the Gaganyaan programme through co-ordinated efforts and focus all the activities that are carried out in other ISRO centres, research labs in India, Indian academia and Industries towards accomplishing the mission.

HSFC, as the lead Centre for Human space flight activities conforms to high standards of reliability and human safety in undertaking R and D activities in new technology areas, such as life support systems, Human Factors Engineering, Bioastronautics, Crew training and Human rating and certification. These areas would constitute important components for future sustained human space flight activities like rendezvous and docking, space station building and interplanetary collaborative manned missions to Moon/Mars and near-earth asteroids.

<http://www.uniindia.com/isro-planning-2nd-test-flight-of-uncrewed-gaganyaan-mission-on-apr-24-somanath/south/news/3181839.html>

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