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समाचार पत्रों से चयनित अंश

Newspapers Clippings

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

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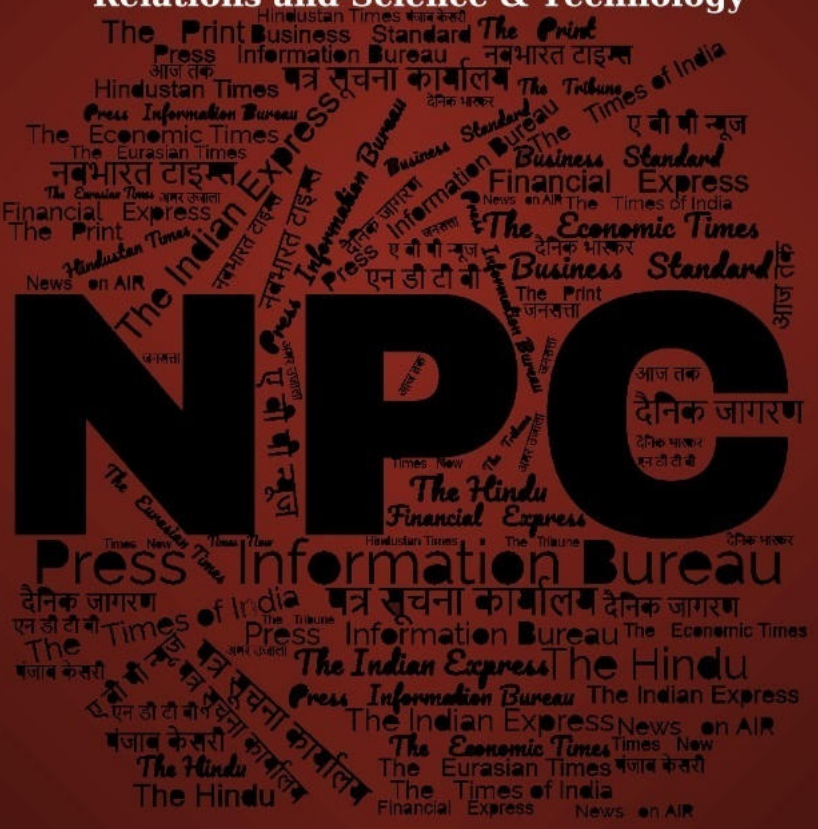

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DRDO News

एकीकृत वायु रक्षा प्रणाली से सफलतपूर्वक दागी गई मिसाइलें

Source: Jansatta, Dt. 25 Aug 2025

जनसत्ता ब्यूरो
नई दिल्ली, 24 अगस्त।

भारत ने उभरते क्षेत्रीय सुरक्षा परिदृश्य के मद्देनजर अपनी बढ़ती सैन्य क्षमताओं का प्रदर्शन करते हुए ओड़ीशा तट से एकीकृत हवाई रक्षा हथियार प्रणाली (आइएडीडब्लूएस) का पहला उड़ान परीक्षण 'सफलतापूर्वक' पूरा किया।

रक्षा मंत्रालय के अनुसार, एकीकृत हवाई रक्षा हथियार प्रणाली एक बहुस्तरीय हवाई रक्षा प्रणाली है जिसमें त्वरित प्रतिक्रिया वाली सतह से हवा में मार बाकी पेज ८ पर

रक्षा मंत्रालय के अनुसार, एकीकृत हवाई रक्षा हथियार प्रणाली एक बहुस्तरीय हवाई रक्षा प्रणाली है जिसमें त्वरित प्रतिक्रिया वाली सतह से हवा में मार करने वाली स्वदेशी मिसाइल , बहुत कम दूरी की हवाई रक्षा प्रणाली मिसाइल और उच्च शक्ति वाली लेजर निर्देशित मिसाइल प्रणाली शामिल हैं।

करने वाली स्वदेशी मिसाइल (क्यूआरएसएएम), बहुत कम दूरी की हवाई रक्षा प्रणाली (वीएसएचओआरएडीएस) मिसाइल और उच्च शक्ति वाली लेजर आधारित निर्देशित ऊर्जा हथियार (डीईडब्लू) प्रणाली शामिल हैं। स्वदेशी हवाई रक्षा प्रणाली का शनिवार 12:30 बजे ओड़ीशा तट से उड़ान परीक्षण किया गया। रक्षा मंत्री राजनाथ सिंह ने उड़ान परीक्षणों के लिए एकीकृत हवाई रक्षा हथियार प्रणाली को विकसित करने वालों, रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) और सशस्त्र बलों को बधाई दी। नई हवाई रक्षा प्रणाली का उड़ान परीक्षण आपरेशन सिंदूर के साढ़े तीन महीने बाद हुआ है।

सिंह ने सोशल मीडिया पर कहा कि मैं एकीकृत हवाई रक्षा हथियार प्रणाली को सफलतापूर्वक विकसित करने के लिए डीआरडीओ, भारतीय सशस्त्र बलों और उद्योग जगत को बधाई देता हूं। उन्होंने कहा कि इस अद्वितीय उड़ान परीक्षण ने हमारे देश की बहुस्तरीय हवाई रक्षा क्षमता को स्थापित किया है और यह दुश्मन के हवाई खतरों के खिलाफ रक्षा प्रणाली को मजबूत बनाएगी।

एकीकृत हवाई रक्षा हथियार प्रणाली के अंतर्गत एक केंद्रीकृत कमान एवं नियंत्रण केंद्र सभी हथियार प्रणालियों का एकीकृत संचालन करेगी।

डीआरडीओ ने कमान एवं नियंत्रण केंद्र बनाया है, जो वायु रक्षा कार्यक्रम के लिए नोडल प्रयोगशाला है। वीएसएचओआरएडीएस और डीईडब्लू क्रमशः अनुसंधान केंद्र इमारत और उच्च ऊर्जा प्रणाली एवं विज्ञान केंद्र द्वारा विकसित किए गए हैं। मंत्रालय ने एक बयान में कहा कि उड़ान परीक्षणों के दौरान क्यूआरएसएएम, वीएसएचओआरएडीएस और उच्च ऊर्जा लेजर हथियार प्रणाली ने अलग-अलग दूरी और ऊंचाई पर तीन अलग-अलग लक्ष्यों को एक साथ निशाना बनाया और पूरी तरह से नष्ट कर दिया गया।

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DRDO successfully tests multi-layered air defence system

Source: The Hindu, Dt. 25 Aug 2025

The Defence Research and Development Organisation (DRDO) successfully conducted the maiden flight tests of the Integrated Air Defence Weapon System (IADWS) off the coast of Odisha around 12:30 p.m. on Saturday (August 23, 2025).

According to the Defence Ministry, IADWS is a multi-layered air defence system comprising all indigenous Quick Reaction Surface to Air Missiles (QRSAM), Advanced Very Short Range Air Defence System (VSHORADS) missiles and a high-power laser-based Directed Energy Weapon (DEW).

DRDO successfully conducted maiden flight tests of the Integrated Air Defence Weapon System off the coast of Odisha.

The integrated operation of all weapon system components is controlled by a Centralised Command and Control Centre developed by Defence Research and Development Laboratory, which is the nodal laboratory of the programme. VSHORADS and DEW are developed by Research Centre Imarat and Centre for High Energy Systems and Sciences respectively, the Ministry added.

During the flight tests, three different targets, including two high-speed fixed-wing Unmanned Aerial Vehicle (UAV) targets and a multi-copter drone, were simultaneously engaged and destroyed completely by the QRSAM, VSHORADS and High Energy Laser weapon system at different ranges and altitudes.

All the weapon system components, including the missile systems, drone detection and destruction system, weapon system command and control, along with communication and radars, performed flawlessly, which was confirmed by Range instruments deployed by Integrated Test Range at Chandipur to capture the flight data. The test was witnessed by senior scientists from DRDO and representatives from the Armed Forces, an official press release stated.

Defence Minister Rajnath Singh complimented DRDO, the Armed Forces and industry for the successful development of IADWS.

He stated that these unique flight tests have established the multi-layered air-defence capability of the country and is going to strengthen area defence for important facilities against enemy aerial threats.

Secretary of the Department of Defence (Research and Development) and DRDO Chairman Dr. Samir V. Kamat congratulated all teams involved in the successful flight tests.

https://www.thehindu.com/news/national/drdo-successfully-conducts-maiden-flight-tests-of-integrated-air-defence-weapon-system/article69970850.ece

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India to develop with France engine for desi stealth fighter

Source: The Times of India, Dt. 24 Aug 2025

India is now finally getting set to kick off the collaboration with France to co-develop a new powerful jet engine for its indigenous fifth-generation stealth fighter and other futuristic platforms, which will further bolster the already expansive strategic partnership between the two countries.

Defence Research and Development Organisation will soon move the cabinet committee on security for the approval of the ambitious project with French major Safran, with 100% transfer of technology, to jointly design, develop, test, qualify, certify and produce the new 120 kilonewton engines in India, senior officials told TOI.

"DRDO has cleared the proposal by Safran, which already makes a variety of helicopter engines in India, as the best option for the twin-engine fifth-generation fighter called AMCA (advanced medium combat aircraft). The project, with DRDO's lab Gas Turbine Research Establishment, would cost almost $7 billion," an official said.

Defence minister Rajnath Singh, speaking at The Economic Times World Leaders Forum Friday, also confirmed the impending project. "We have taken steps forward to build our fifth-generation fighter aircraft. We have also moved towards manufacturing the aircraft's engine in India itself. We are about to start engine manufacturing work in India with the French company Safran," Singh said.

India's inability to manufacture an aero-engine, with the requisite thrust-to-weight ratio, has for long been a major hurdle for indigenous fighter jet programmes.

The almost two-year delay in delivery of 99 GE-F404 turbofan engines by US firm General Electric, which HAL contracted for Rs 5,375 crore in Aug 2021, as well as weapons and radar integration issues, for instance, are the main reasons for the major slowdown in production of Tejas Mark-1A fighters.

Hindustan Aeronautics and GE are also yet to seal the final deal for the co-production of the GE-F414 engines in the 98 kilonewton thrust class in India, with 80% of transfer of technology for around $1.5 billion, to power the planned Tejas Mark-2 variant.

"The project for jet engine with Safran will have full IP (intellectual property) ownership & licencing control by India. It will create an entire ecosystem for the manufacture of aero-engines in India, with complete supply chain development," an official said.

This comes after the defence ministry in May finally approved a new "programme execution model" for prototype development of the 25-tonne AMCA, with greater private sector participation.

As per existing timelines, the AMCA with the requisite thrust-to-weight ratio, advanced sensor fusion and stealth features like an internal weapons bay and "serpentine air-intake" will be ready for production only by 2035.

IAF plans to induct seven squadrons (126 jets) of the expensive AMCA, with the first two squadrons powered by the American GE-F414 engines and the next five with 120 kilonewton engines.

https://timesofindia.indiatimes.com/india/india-to-develop-with-france-engine-for-desi-stealth-fighter/articleshow/123462748.cms

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Defence News

पांचवीं पीढ़ी के फाइटर जेट की और भारत का कदम

Source: NavBharat Times, Dt. 23 Aug 2025

हमारे युवा केवल वैज्ञानिक ही न बनें बल्कि योद्धा वाली मानसिकता भी रखें जो उनके निजी जीवन में आगे बढ़ने में तो सहायक होगा। -राजनाथ सिंह, रक्षा मंत्री

■ NBT रिपोर्ट, नई दिल्ली

रक्षा मंत्री राजनाथ सिंह ने कहा कि आज हम फिफ्थ जेनरेशन फाइटर जेट बनाने की दिशा में आगे कदम बढ़ा चुके हैं। हम एयरक्राफ्ट का इंजन भी भारत में ही बनाने की तरफ बढ़ चुके हैं। हम फ्रेंच कंपनी साफरान के साथ इंजन मेकिंग का काम भारत में शुरू करने जा रहे हैं।

उन्होंने कहा कि यह जरूरी है कि हम रूल बेस्ड वर्ड ऑर्डर का निर्माण करें, एक ऐसा वर्ड ऑर्डर जहां समानता हो, संघर्ष की जगह सहयोग हो। आज जब बहुत सारे देश ग्लोबल सप्लाई चेन डिस्टर्ब होने से काफी प्रभावित हो रहे हैं, भारत ग्लोबल सप्लाई चेन को मजबूत कर सकता है। जब हम आत्मनिर्भर भारत की बात करते हैं तो वह मात्र इंपोर्ट सब्स्टिट्यूशन की पॉलिसी नहीं है बल्कि उसके पीछे एक ग्लोबल गुड की भावना है। उसके पीछे दुनिया को एक मजबूत सप्लाई चेन देने की भावना है। रक्षा मंत्री ने कहा कि करीब सौ देशों को हमारे देश में बने डिफेंस प्रोडक्ट्स एक्सपोर्ट किए जा रहे हैं। हमारा यह लक्ष्य है कि इस साल हमारा डिफेंस एक्सपोर्ट तीस हजार करोड़ रुपये और साल 2029 तक पचास हजार करोड़ रुपये पहुंच जाए। उन्होंने कहा कि भारत का डिफेंस एक्सपोर्ट 2014 की तुलना में करीब 35 गुना बढ़ चुका है। साल 2013-14 में भारत से होने वाला डिफेंस एक्सपोर्ट केवल 686 करोड़ का था, वह आज 2024-25 में बढ़कर 23,622 करोड़ तक पहुंच गया है।

डिफेंस एक्सपोर्ट करीब 35 गुना बढ़ चुका है

राजनाथ सिंह ने कहा कि हाल ही में पाकिस्तान के आर्मी चीफ जनरल असीम मुनीर अपने बयान पर पाकिस्तान के अंदर भी और पूरी दुनिया में खूब ट्रोल हुए। सबने यही कहा कि अगर दो देश एक साथ आजाद हुए और एक देश ने कड़ी मेहनत, सही नीतियों और दूरदृष्टि से फरारी जैसी अर्थव्यवस्था बनाई और दूसरा अभी भी डंपर की स्थिति में है तो यह उनकी अपनी नाकामी है। मैं असीम मुनीर के इस बयान को एक स्वीकारोक्ति के रूप में भी देखता हूं।

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Navy set to induct 2 Warships

Source: Hindustan Times, Dt. 24 Aug 2025

The Indian Navy will bolster its capabilities in the Indian Ocean region with the induction of two locally made warships in Visakhapatnam next week, strengthening its hold on the vast maritime expanse where China is seeking to expand its footprint, officials aware of the matter said on Saturday.

The Project 17A stealth frigates Udaygiri and Himgiri will be commissioned into service simultaneously on August 26 in the presence of defence minister Rajnath Singh, the officials said. The navy inducted the first of the seven P-17A warships, INS Nilgiri, in January. Taragiri, Mahendragiri, Dunagiri and Vindhyagiri will be commissioned by August-September 2026. “India’s steady rise as a maritime power is unfolding in real time, driven by strategic vision, industrial resolve and an unwavering push for self-reliance. A striking manifestation of this transformation is the construction and commissioning of the Nilgiri-class stealth frigates under P-17A, the most advanced surface combatants of the Indian Navy,” said one of the officials cited above.

The platforms, showcasing the country’s warship building prowess, have an indigenous content of 75% and come with modern weapons, sensors and systems to dominate the sea battlespace. The ₹45,000-crore P-17A is a follow-on of the Shivalik-class (P-17) stealth frigates and represents a significant upgrade over the previous warships. Nilgiri and Udaygiri were built at Mumbai-based Mazagon Dock Shipbuilders Limited (MDL), and the public sector yard will construct two more P-17A warships --- Taragiri and Mahendragiri. Himgiri was built at Kolkata-based Garden Reach Shipbuilders and Engineers (GRSE) Limited, where Dunagiri and Vindhyagiri are in different stages of construction.

P-17A is a key part of the navy’s shipbuilding roadmap, which envisages a leaner and technology-driven force equipped to secure the country’s growing maritime interests, said a second official, who also asked not to be named. “The Nilgiri-class draws on the successful lineage of the Shivalik-class frigates, but incorporates significant improvements in offensive capability, stealth, automation, survivability and modular construction techniques. Their innovative design reduces radar, infrared, acoustic and magnetic signatures, making them stealthier and thus difficult to detect.”

The frigates feature modern weapons, sensors, and electronic warfare suites, including the BrahMos supersonic cruise missile, MF-STAR surveillance radar, Barak-8 surface-to-air missile system and anti-submarine warfare capabilities.

https://epaper.hindustantimes.com/Home/ShareArticle?OrgId=2483194f347&imageview=0

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India sees space as the future of security: Rajnath Singh

Source: The Times of India, Dt. 25 Aug 2025

India does not see space only as a field of research but as the future of tomorrow's economy, security, energy and humanity, and cannot afford to stay behind in the journey, defence minister Rajnath Singh said on Sunday.

"We're steadily advancing beyond the earth's surface into new frontiers of space. We've already marked our presence from the moon to Mars, and today, the nation stands fully prepared for missions like Gaganyaan," Singh said.

The minister felicitated IAF Group Captains Shubhanshu Shukla, P B Nair, Ajit Krishnan and Angad Pratap, who are part of Isro's maiden space flight mission Gaganyaan, and who he described as "gems of the country and pioneers of national aspirations". The event was attended by Chief of Defence Staff General Anil Chauhan and IAF chief Air Chief Marshal A P Singh, among others.

"India proudly stands tall among the world's leading space powers. Its space programme is not confined to laboratories and launch vehicles. It's a reflection of our national aspirations and global vision. From Chandrayaan to Mangalyaan, we have demonstrated that even with limited resources, an unlimited willpower can transform the most challenging goals into remarkable accomplishments," Singh said.

The technologies derived from space, be it communication satellites, weather monitoring or disaster management, are delivering services to every village and every field across India," Singh said.

In the coming times, space mining, deep space exploration, and planetary resources will redefine the course of human civilization, he added.

https://timesofindia.indiatimes.com/india/india-sees-space-as-the-future-of-security-rajnath-singh/articleshow/123489895.cms

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ऑपरेशन सिन्दूर के बाद सेना प्रमुख का पहला विदेशी दौरा, जाएंगे अल्जीरिया

Source: NavBharat Times, Dt. 23 Aug 2025

Poonam.Pandey
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■ नई दिल्ली: इंडियन आर्मी चीफ जनरल उपेंद्र द्विवेदी अगले हफ्ते अल्जीरिया जाएंगे। ऑपरेशन सिंदूर के बाद यह आर्मी चीफ का पहला विदेशी दौरा होगा। अल्जीरिया की मगरेब क्षेत्र में अहम सामरिक स्थिति है और अफ्रीकी क्षेत्र में स्ट्रैटेजिक मौजूदगी बढ़ाने के लिए यह भारत के लिए अहम है। इस यात्रा का मुख्य मकसद डिफेंस कोऑपरेशन (रक्षा सहयोग) है।

आर्मी चीफ अल्जीरिया के साथ मिलिट्री टु मिलिट्री संबंध मजबूत करने, ट्रेनिंग कार्यक्रमों का विस्तार करने और कैपेबिलिटी डिवेलपमेंट पर चर्चा करेंगे। भारत और अल्जीरिया के पास ज्यादातर मिलिट्री इक्विपमेंट्स और तकनीक एक

File

मगरेब क्षेत्र में अहम सामरिक स्थिति है अल्जीरिया की

अफ्रीकी क्षेत्र में स्ट्रैटेजिक मौजूदगी बढ़ाने के लिए अहम

क्यों अहम है अल्जीरिया?

भारत अल्जीरिया को अफ्रीका और भूमध्यसागर क्षेत्र से जुड़ने में एक स्वाभाविक साझेदार मानता है। अल्जीरिया मगरेब–सहेल क्षेत्र का मुख्य देश तो है ही, साथ ही अफ्रीकी संघ और गुटनिरपेक्ष ट्रेडिशन में इसकी मजबूत स्थिति है। अल्जीरिया मगरेब क्षेत्र में अहम सामरिक स्थिति रखता है। अल्जीरिया के पास विशाल हाइड्रोकार्बन भंडार है। यह भी भारत की ऊर्जा सुरक्षा के लिए बेहद अहम है।

जैसी है। भारत उन्हें अपने एक्सपीरियंस से ट्रेनिंग और मेंटेनेंस में मदद कर सकता है। रक्षा तकनीक में सहयोग बढ़ाने पर बात होगी। दोनों देश रक्षा उद्योग, आधुनिकीकरण, लॉजिस्टिक्स और उपकरण सहयोग के मौके भी तलाशेंगे। इससे दोनों सेनाओं के बीच विश्वास, तालमेल और व्यावहारिक सहयोग बढ़ने की उम्मीद है।

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Army chief visiting Algeria in India's Africa outreach

Source: The Times of India, Dt. 25 Aug 2025

Army chief General Upendra Dwivedi is now headed for Algeria to boost the bilateral defence engagement with the country, as part of the ongoing overall outreach to Africa where China has made deep strategic inroads.

General Dwivedi's visit from Aug 25-28 aims at reinforcing defence and security engagement between India and Algeria, with a focus on bolstering army-to-army cooperation, sharing perspectives on regional and global security challenges, and exploring avenues for defence industrial collaboration, officials said.

India views Algeria as a natural partner in its outreach to Africa and the Mediterranean, given its pivotal role as a gateway to the Maghreb-Sahel-Mediterranean region. President Droupadi Murmu and Chief of Defence Staff General Anil Chauhan had also visited the north African country in Oct-Nov last year.

"Indian defence industries showcased their capabilities at a defence seminar in Algiers from July 30 to Aug 1, laying the foundation for defence industry and technology collaboration," an official said.

In his first overseas visit after India conducted Operation Sindoor against Pakistan, the Army chief is slated to hold meetings with senior Algerian leadership, including General Said Chanegriha, who is the minister delegate to the minister of national defence and chief of staff of the People's National Army, as well as Lieutenant General Mostefa Smaali, commander of land forces."

General Dwivedi's visit is expected to further deepen the ties between both nations. He will also share India's strategic vision of zero tolerance for terrorism," the official said.

https://timesofindia.indiatimes.com/india/army-chief-visiting-algeria-in-indias-africa-outreach/articleshow/123490671.cms

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Indian Navy, Coast Guard to get 76 new copters for maritime surveillance

Source: The Tribune, Dt. 25 Aug 2025

The ministry has also issued a request for information (RFI) — which is the first step in the tendering process — to acquire these copters from original equipment manufacturers with the ability to manufacture helicopters in India

The Ministry of Defence is aiming to procure 76 naval utility helicopters — 51 for the Navy and 25 for the Coast Guard. These helicopters will be used for maritime surveillance, utility tasks, disaster management and low-intensity maritime operations.

The ministry has also issued a request for information (RFI) — which is the first step in the tendering process — to acquire these copters from original equipment manufacturers with the ability to manufacture helicopters in India.

“These helicopters should be able to perform multiple roles by day and night -- including maritime search and rescue operations, casualty evacuation, and carry troops and cargo,” said the MoD.

It is also looking at twin-engine copters with a payload carrying capacity of 5.5 tonnes. These copters will be used for operations from ship-deck, and should also have the ability to operate out at sea. Since the MoD is targeting to use the copters for low-intensity operations, it seeks an automatically fired heavy machine gun or a medium machine gun. For such operations, the copter needs to have some level armour plating to prevent bullets (fired by the adversary) from damaging the copter.

The Navy and the Coast Guard currently use a mix of copters for roles defined in the RFI. This includes the advanced light helicopter produced by Hindustan Aeronautics Limited (HAL); Cheetah/Chetak, produced in India from and based on the French-designed Aérospatiale Alouette III and from the Aérospatiale SA 315B Lama.

https://www.tribuneindia.com/news/india/navy-coast-guard-to-get-76-new-copters-for-maritime-surveillance/

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Indian Navy's INS Tamal Engages in Naval Drills with Greek Patrol Boat HS Ritsos

Source: The Statesman, Dt. 24 Aug 2025

After concluding its port call at Souda Bay, Greece, INS Tamal, the Indian Navy's latest stealth frigate, sailed out to conduct a Passage Exercise with HS Ritsos, a Roussen-class patrol boat of the Hellenic Navy, aimed at enhancing interoperability between the two navies.

In a statement issued here today, the Naval spokesperson stated that the ship, enroute to her home base in India, will be visiting ports in friendly foreign countries in Asia furthering maritime diplomacy and strengthening bilateral ties across the spectrum.

During its halt, the ship's crew engaged with the Hellenic Navy and NATO functionaries during the port call. This included the Commanding Officer's call on Commodore Dionysios Mantadakis, Base Commander of Souda Bay Naval Base, Captain Kouplakis Iiias, Head of the NATO Maritime Interdiction Operational Training Centre (NMIOTC), and Captain Stephen Steacy, Commanding Officer of Naval Support Activity of US Navy on 19 Aug 2025. The discussions during the meetings focussed on operational matters and maritime cooperation. A cross deck visit for crew of INS Tamal was conducted onboard the multi-role amphibious assault unit ITS Trieste, a Landing Helicopter Dock of the Italian Navy, at Souda Bay, the spokesperson added.

The port call by INS Tamal reflects the importance India attaches to its relations with Greece and the endeavour to strengthen the growing defence cooperation between the two nations. It has also provided an opportunity for both navies to share best practices and pursue further opportunities for joint engagement.

https://www.thestatesman.com/india/indian-navys-ins-tamal-engages-in-naval-drills-with-greek-patrol-boat-hs-ritsos-1503475732.html

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INS Kadmatt successfully concludes port call at Surabaya, Indonesia

Source: The Statesman, Dt. 25 Aug 2025

Indian Naval Ship INS Kadmatt, an indigenous ASW corvette, successfully completed a three-day port call at Surabaya, Indonesia, strengthening the bond of friendship, trust, and interoperability between the Indian Navy and the Indonesian Navy (TNI AL).

The naval spokesperson stated that during the visit, professional and cultural engagements were conducted to enhance maritime cooperation and mutual understanding. Key activities included professional interactions and cross-deck visits, operational synergy between the two navies.

The crew also participated in combined yoga session onboard and a friendly volleyball match with TNI AL personnel, showcasing the shared spirit of camaraderie and collaboration.

As part of community outreach, the ship welcomed members of the Indian diaspora residing in Indonesia, providing them with an opportunity to visit the ship and engaged with the crew. Additionally, courtesy calls with senior naval leadership further emphasised the commitment of both nations to work together towards ensuring a secure and stable maritime domain in the region.

The visit of INS Kadmatt reaffirmed Indian Navy's role as the preferred security partner in the region and reinforced the long-standing maritime partnership between India and Indonesia under the shared vision of 'Partnership Across Sea', the spokesperson added.

https://www.thestatesman.com/india/ins-kadmatt-successfully-concludes-port-call-at-surabaya-indonesia-1503476190.html

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From uniform to universe: Defence Minister hails India's space heroes

Source: The Statesman, Dt. 25 Aug 2025

The four astronauts, Group Captain Shubhanshu Shukla, Group Captain PB Nair, Group Captain Ajit Krishnan, and Group Captain Angad Pratap, were felicitated by Defence Minister Rajnath Singh here on Sunday.

Dubbed as Gaganyatris, the four Indian Air Force officers are part of Gaganyaan, ISRO's maiden space flight mission.

Describing the four as gems of the country and pioneers of national aspirations, the defence minister said India is expanding its presence in space. "We do not see space only as a field of research, but as the future of tomorrow's economy, security, energy, and humanity. We're steadily advancing beyond the Earth's surface into new frontiers of space. We've already marked our presence from Moon to Mars, and today, the nation stands fully prepared for missions like Gaganyaan," he said.

Describing the achievement as not a mere technological milestone but also a new chapter in Aatmanirbhar Bharat, the he said India proudly stands tall among the world's leading space powers. "Its space programme is not confined to laboratories and launch vehicles. It's a reflection of our national aspirations and global vision. From Chandrayaan to Mangalyaan, we have

demonstrated that even with limited resources, an unlimited willpower can transform the most challenging goals into remarkable accomplishments," he added.

Singh also pointed out that the technologies derived from space, be it communication satellites, weather monitoring or disaster management are delivering services to every village and every field across India and emphasised that India cannot stay behind in the space journey. "In the coming times, space mining, deep space exploration, and planetary resources will redefine the course of human civilisation," he said.

The defence minister further added that the world has entered an era where space is no longer a symbol of military power or technical prowess, but a new stage in the collective journey of human civilisation. "India has always given the message of Vasudhaiva Kutumbakam to the world. And, today, our scientists and astronauts are taking the same message to new heights," he said.

Commending Group Captain Shubhanshu Shukla for his successful space mission, the defence minister highlighted the officer's determination and courage which reflect the spirit of India, making him a source of national pride. "Completing a two-and-a-half year's training in just two-and-a-half months, Group Captain Shukla's remarkable testament showcased his personal dedication and the perseverance of the Indian people. His extraordinary feat is not just a technological achievement, it is a message of faith and dedication. It is not just India's pride, it is proof of the progress of entire humanity," he said.

Raksha Mantri described Group Captain Shukla as a symbol of civil-military fusion. "Though he wears the uniform of the Indian Air Force, his journey into space was not merely on behalf of the Armed Forces or India alone, but as a representative of all humanity. His contribution to the civil sector, through this historic mission, will forever be recorded in history," he said.

Underlining the need to prepare astronauts physically, mentally, emotionally, and psychologically, Singh highlighted the pivotal role played by Institute of Aerospace Medicine in this training. "Group Captain Shubhanshu Shukla is a shining embodiment of that institute's success," he said.

https://www.thestatesman.com/india/from-uniform-to-universe-defence-minister-hails-indias-space-heroes-1503476142.html

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"She's On Duty": IAF Quashes Reports of Squadron Leader Shivangi Singh's Capture

Source: The Statesman, Dt. 24 Aug 2025

Months after the government claimed that Squadron Leader Shivangi Singh, India's first and only female Rafale pilot, was not captured by Pakistan during Operation Sindoor, the chatter on social media handles has gained momentum regarding her "alleged disappearance".

Singh shot into the limelight way back in 2020 when she was shortlisted for flying Rafale. Earlier she was flying MiG-21 Bison aircraft. Hailing from Varanasi in Uttar Pradesh, Singh got commissioned in the Indian Air Force in 2017, as part of IAF's second batch of women fighter pilots. Following an intrusive process, she was shortlisted as a Rafale pilot in 2020.

During Operation Sindoor, various rumours circulated suggesting that India had lost several fighter jets, including a Rafale. Some reports even alleged that Singh had been captured near Sialkot

after ejecting from her aircraft, which was purportedly shot down. A few days ago, another fake video claiming that IAF Chief, Air Chief Marshal AP Singh, visiting the home of the IAF pilot went viral on social media.

Several pro-Pakistan social media accounts, including verified ones, circulated a 23-second video claiming it showed the IAF Chief at the residence of missing pilot Shivangi Singh. However, PIB Fact Check refuted the claim, clarifying that the footage was from August 14, 2025. The video actually depicts the Air Chief Marshal visiting the family of the late Sergeant Surendra Kumar in Jhunjhunu, Rajasthan. Sergeant Kumar lost his life in the line of duty during Operation Sindoor.

In a statement issued to The Statesman, the Indian Air Force spokesperson called the reports fake. “Sqn Ldr Shivangi remains deployed and is performing her operational duties,” the spokesperson stated.

It may be recalled, that during the media briefings of Op Sindoor, Indian Air Force’s Director General of Air Operations (DGAO) Air Marshal Bharti had claimed that the forces have achieved the objectives of Operation Sindoor and all the pilots are back home.

“We are in a combat scenario; losses are a part of combat. The question you must ask us is… have we achieved our objective of decimating the terrorist camps? And the answer is a thumping yes. And the results are for the whole world to see,” he had said.

“As for the details, what could have been… how many numbers… which platform did we lose… at this time I would not like to comment on that because we are still in a combat situation. If I comment on anything, it will only be advantageous. So, we don’t want to give him any advantage at this stage,” he added.

https://www.thestatesman.com/india/shes-on-duty-iaf-quashes-reports-of-squadron-leader-shivangi-singhs-capture-1503475793.html

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Atmanirbhar & Armed! India trains guns on being World-Class Exporter

Source: The Economic Times, Dt. 24 Aug 2025

he vision of Atmanirbharta (self-reliance) in defence is not just about reducing imports but creating an ecosystem where the public and private industry develop world-class capabilities and India emerges as a global supplier of high-quality defence products, defence minister Rajnath Singh said at the ET World Leaders Forum.

The senior minister highlighted India's growing global leadership and said the country sees the way forward as taking like-minded nations as partners in a shared journey. At the same time, he said it should be clear that India's fighting spirit and defence capability remain strong, as demonstrated during Operation Sindoor.

"Indian ethos does not see global order as a contest for dominance, but as a shared journey towards harmony, dignity, and mutual respect for all. In our tradition, the measure of strength is not in the ability to command, but in the capacity to care; not in the pursuit of narrow interest, but in the commitment to the global good," he said.

Singh said he has a strong belief that the country is destined to play a leading role in shaping the next global order, citing three main reasons-India's civilisational values, its rapidly growing economic strength, and its unmatched demographic dividend.

Speaking to global business leaders, the minister said that Indian defence exports have grown nearly 35 times in the last decade from ₹686 crore in FY14 to ₹23,622 crore in FY25, with defence products now being exported to nearly 100 countries. The government has set a target of achieving ₹30,000 crore in defence exports this year and ₹50,000 crore by 2029, he added.

The minister also said that Indian domestic defence production has more than tripled from ₹40,000 crore in 2014 to over ₹1.5 lakh crore in FY25 and is on track to touch nearly ₹2 lakh crore in the current fiscal year. The budget has reserved 75% of the defence procurement allocation for Indian companies.

Major projects for manufacturing helicopters, aircraft and submarines have been approved, which will help create a robust domestic manufacturing ecosystem, the minister said with regard to recent orders given to the industry.

In particular, he mentioned clearance for an order worth ₹66,000 crore to make 97 Tejas fighter aircraft for the air force to Hindustan Aeronautics Ltd (HAL). This is in addition to an earlier order of 83 aircraft worth ₹48,000 crore.

"Our Tejas aircraft is going to be a great example of India's indigenous defence capabilities. We have also taken steps towards making fifth-generation fighter aircraft and aircraft engines in India," he added. The minister also confirmed an earlier ET story that French manufacturer Safran has been chosen as the partner for India's next-generation fighter jet engine development.

The minister extended an invitation to global defence companies to partner India, citing production of C295 transport aircraft by Airbus in collaboration with Tata Aerospace. "Today there is an opportunity for all the big defence companies of the world to invest in India and co-produce defence equipment here. Our Make in India is not limited to India only. When you Make in India, you will make for the world," he said.

The minister added that the Indian defence budget has been substantially enhanced, rising from ₹2.53 lakh crore in FY14 to nearly ₹6.22 lakh crore in FY25, with further increases planned in the aftermath of Operation Sindoor. "Strengthening India's defence sector has been one of the government's top priorities. When defence is strong, the nation's development remains uninterrupted," he said.

The minister also drew the attention of the audience to India's efforts to create defence industrial corridors in Uttar Pradesh and Tamil Nadu, which are attracting wide-ranging investments and acting as growth drivers for the defence sector. He also pointed to policy reforms such as raising FDI limits in defence to 74% (automatic route) and up to 100% (government route) and transfer of technology from DRDO free of cost.

Speaking on his government's efforts to promote private sector participation, the minister said that under the Strategic Partnership model, Indian firms are being invited to build advanced platforms including fighter jets, helicopters, tanks and submarines.

Singh also spoke on India's rise as the world's fastest-growing major economy, saying that at present it is the fourth largest and moving fast towards the third place. The minister said exports are up 76% in the past decade and domestic demand is resilient. He also termed India's young population a transformative asset, pointing out that 65% of citizens are below the age of 35.

https://economictimes.indiatimes.com/news/defence/et-wlf-2025-atmanirbhar-armed-india-eyes-global-defence-export-leadership-says-rajnath-singh/articleshow/123488872.cms?from=mdr

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Pakistan army chief ‘dumper’ remark a confession of failure: Rajnath Singh

Source: The Economic Times, Dt. 23 Aug 2025

Defence minister Rajnath Singh said the Pakistani army chief likening his country to a dump truck that can obstruct a Mercedes is an admission of failure.

India, meanwhile, continues on the path of development and is marching toward self-reliance, presenting significant opportunities for both domestic and overseas companies, Singh told the ET World Leaders Forum in his keynote address in the Capital on Friday.

The defence minister said India is rapidly developing a robust defence manufacturing ecosystem with mega projects opened up to build fighter jets, helicopters, tanks and submarines, providing a suitable growth environment to the private sector.

Speaking to a gathering of global business leaders, entrepreneurs and policymakers on the theme of Defence, Diplomacy, and Deterrence: Shaping India’s Strategic Horizon, he referred to Pakistan Field Marshall Asim Munir’s remarks about the shining Mercedes and the dump truck full of gravel.

This exposes the mentality of the neighbouring nation, he said. “If two countries became independent together and one country, through hard work, the right policies, and vision, built a Ferrari-like economy, and the other is still in a dumper's state, it is their own failure,” he said.

Indigenous capabilities

“I also see this statement of Asim Munir as a confession,” said Singh.

Pointing to the success of Operation Sindoor, he said Pakistan should not be under any illusion that India is unprepared for war because of its fast-growing economy and focus on development.

In strong words of support for indigenous efforts to develop weapons, the minister said the quality and standard of foreign equipment was not built in a day. Citing the example of the Tejas fighter jet, the minister said with consistent support of government and armed forces, the aircraft has moved to next phase, with government clearing an additional order for 97 jets valued at ₹66,000 crore.

“Our Tejas aircraft is going to be a great example of India’s indigenous defence capabilities,” he said. “It is not that we are not facing problems in this work, but we are determined we will find solutions to every problem and build full capability to manufacture fighter aircraft in India.”

The minister added that India is also moving toward developing fifth generation fighter aircraft. A start has been on manufacturing engines for such planes in India with French company Safran, he said.

https://economictimes.indiatimes.com/news/india/et-wlf-2025-pakistan-army-chief-dumper-remark-a-confession-of-failure-rajnath-singh/articleshow/123460768.cms?from=mdr

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Why India's jet engine still hasn't taken off

-by Major Amit Bansal (Retired)

Source: The Economic Times, Dt. 24 Aug 2025

When Prime Minister Narendra Modi spoke from the ramparts of Red Fort about his aspiration for India to develop its own jet engine, his words echoed a deep-seated pain—a frustration of over four decades in the making.

Since the ambitious launch of the Kaveri engine programme in 1986, India has faced repeated setbacks— lost decades, wasted resources and unfulfilled national ambitions.

There is now some momentum to change that. Defence Minister Rajnath Singh has said at ET World Leaders Forum that India’s indigenously built fifth-generation fighter aircraft will have indigenously built engines. The plan is to jointly develop them with the French company Safran.

About time too. Originally slated for completion in 1996, the Kaveri project remains unfinished, with its objectives frequently shifting toward secondary applications rather than its initial purpose.

The cost escalation is staggering. What began with an allocation of Rs 382 crore in 1986 ballooned to more than Rs 1,300 crore by 2004, surpassed Rs 2,000 crore by 2014, and officially totalled Rs 2,839 crore by 2016—as acknowledged by the then defence minister Manohar Parrikar in the Lok Sabha. Today, it is estimated that over Rs 3,000 crore has been invested, yet India remains without a homegrown operational engine for its fighter aircraft.

Jet engine is the heart of any aircraft as its mission and performance hinge on this singular technology. Despite years of relentless effort from the Defence Research and Development Organisation (DRDO) and its Gas Turbine Research Establishment (GTRE),

India has not produced an engine capable of powering its own Tejas multirole aircraft. Our inability to deliver on this promise has not only resulted in prolonged delays but has also dealt a serious

blow to national security. There are various factors that contributed to the programme's persistent failures.

Limited Experience

When GTRE received the mandate to build an advanced jet engine, its prior experience was minimal. Though it developed the GTX37-14U turbojet in 1977, this basic engine advanced only to the prototype stage.

The lack of sophisticated testing facilities in India hampered progress, and GTRE was suddenly tasked with developing a modern turbofan engine—demanding cutting-edge materials, advanced technology and constant, accountable effort.

Resources were limited and experience was lacking. So what GTRE could do was try and deliver whatever possible. That's not how challenges in the aviation industry are met.

Lack Of Tech Expertise

While senior officials at GTRE and DRDO were aware of their limited expertise, no early efforts were made to acquire foreign technology or pursue international collaboration.

The reluctance to seek outside assistance caused years of unnecessary delay. Just one example will be sufficient to cement this. When no light was visible at the end of the tunnel, India approached France's Snecma (now Safran) for technical help only in 2008, after 22 years of futile efforts and spending over Rs 1,500 crore of taxpayers' money.

Even then, bureaucratic hurdles led to a two-year wait to sign a formal agreement and actual collaboration finally began in 2016. Moreover, India's licence raj obstructed private sector engagement, delaying essential infrastructure development. It wasn't until 2020—three and a half decades later—that meaningful private partnership began.

The Kaveri engine, under development for decades, displayed at Aero India in Bengaluru

Changing Requirements

Kaveri was designed to power the Tejas fighter, then under development. But as Tejas' designs changed, so did engine requirements. Initial specifications called for 52 kilonewton (kN) dry thrust and 81kN afterburner thrust with the engine weight of 1,100 kg.

By the turn of the century, Tejas grew heavier by 1,000 kg, demanding over 90 kN of wet thrust while GTRE's prototypes fell short, yielding only 49-51kN dry and 70-75kN wet thrust.

Meanwhile, rapidly advancing technology prompted the air force to demand additional features like full authority digital engine control, low-infrared signatures, super-cruise capability, advanced turbine blades, thrust-vectoring nozzles and improved safety.

Unable to meet the original objectives, GTRE eventually shifted its focus to new variants that are proposed to power future advanced medium combat aircraft (AMCA), some of the marine applications and indigenous unmanned systems.

Scarcity Of Materials & Facilities

Producing cutting-edge engines requires superalloys and specialised materials, areas in which DRDO and GTRE lacked expertise. Sourcing these materials was complicated by government inertia and the sanctions imposed on India after the 1998 nuclear tests.

By the time the sanctions eased, crucial years had already slipped by. Testing also posed a major obstacle as India lacked high-altitude testbeds, wind tunnels and stress-testing labs.

These could have been developed over time, but we failed. As a result, even today, India relies on foreign facilities for engine testing and is sending its engines to Russia or elsewhere.

Deficit Of Will

India's political instability between 1989 and 2004, marked by repeated coalition governments, deeply affected the indigenous engine project.

Even after relative stability returned, official neglect persisted and accountability was rare. The issue simply was not prioritised. India, which is surrounded by formidable adversaries on all sides, should have treated national security with utmost seriousness, but political inertia and babudom consistently stifled progress.

The Kaveri story is now sliding into history, leaving behind hard-earned lessons. For self-reliance, strategic leverage, cost efficiency and globalcompetitiveness, India must urgently develop its own jet engine.

While private participation has begun—with firms like Godrej developing dry variants for unmanned aerial vehicles—what's needed is national will and a robust partnership between academia, industry and government. State-of-the-art testing, advanced metallurgy and research ecosystems are vital if India hopes to power its next-generation fighter within a desired timeframe.

India faces real threats. China spends nearly 3.7% of its GDP on defence, while Pakistan allocates 2.8%. India, confronting multi-pronged security challenges, lags at just 1.9%—far short of the recommended 3-3.5%. The time has come for the government to prioritise defence spending, move beyond populist measures, enforce accountability and foster broad collaboration.

The Kaveri experience must serve not as a setback, but as a springboard for a new era of innovation, capability and pride. This transformative journey demands a long-term commitment not only from the government, but also from industry leaders, engineers and academia across the nation.

By fostering world-class research, investing in advanced manufacturing and encouraging collaboration at every level, India has the potential to achieve true technological independence under tight timelines. With unwavering national will and strategic focus, we can witness Indian

fighter aircraft propelled by engines built entirely at home, marking a breakthrough in both national security and global prestige.

https://economictimes.indiatimes.com/news/defence/why-indias-jet-engine-still-hasnt-taken-off/articleshow/123479740.cms?from=mdr

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India-Bangladesh ties: DG-level talks in Dhaka this week; will discuss trans-border crimes

Source: The Times of India, Dt. 24 Aug 2025

Border Security Force (BSF) chief Daljit Singh Chawdhary will visit Dhaka between August 25 and 28 for DG-level talks with his Bangladeshi counterpart, Border Guard Bangladesh (BGB) chief Major Gen Mohammad Ashrafuzzaman Siddiqui, during which they will discuss border-related issues and better coordination between the two border forces.

The Indian delegation led by Chawdhary will bring up issues like the construction of single-row fence on the border, prevention of attacks on BSF personnel and Indian civilians by Bangladesh-based miscreants, checking of trans-border crimes and action against Indian insurgent groups (IIGs) based in Bangladesh. The talks will also delve into issues related to border infrastructure, joint efforts for effective implementation of the coordinated border management plan (CBMP) and confidence building measures.

This is the first time since the change in political regime in Bangladesh last year, that DG-level border talks are being held in Dhaka. The last leg of the bi-annual talks was held in the Indian capital from Feb 17 to 20.

India and Bangladesh share a 4,096 km long international border. The BSF is designated as the lead security and intelligence-gathering agency for this front.

PTI quoted sources as saying that the talks, which were to be held in July but got delayed due to certain administrative issues, are not expected to draw any concrete policy steps as Bangladesh currently has an interim government.

Muhammad Yunus, the chief advisor to the interim government in Bangladesh, recently announced that general elections would be held in the country in February 2026.

The announcement coincided with the first anniversary of the ouster of Sheikh Hasina's Awami League regime on August 5, 2024.

The DG-level border talks were held annually between 1975 and 1992, but they were made bi-annual in 1993, with either side alternatively travelling to New Delhi and Dhaka.

A total of 864.48 km of the India-Bangladesh border remains unfenced, including 174.51 km of 'non-feasible' gap, according to official data.

https://timesofindia.indiatimes.com/india/india-bangladesh-ties-dg-level-talks-in-dhaka-this-week-will-discuss-trans-border-crimes/articleshow/123458211.cms

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First AI combat drone Kaal Bhairava ready for export

Source: The Pioneer, Dt. 23 Aug 2025

FIRST AI COMBAT DRONE KAAL BHAIRAVA READY FOR EXPORT

Bengaluru-based drone maker Flying Wedge Defence and Aerospace (FWDA) on Friday announced the readiness of its indigenous, export-ready and Artificial Intelligence-powered Medium Altitude Long Endurance (MALE) Autonomous Combat Aircraft – FWD Kaal Bhairava, in Bengaluru. Claiming to be the country's first fully indigenous MALE autonomous combat aircraft, the Flying Wedge Defence and Aerospace stated that it has bagged an export order of $30 million from a South Asian nation. Inspired by Kaal Bhairava, the eternal guardian of time, the platform is engineered to deliver an endurance of up to 30 hours and a range of 3,000 kms. Speaking at the occasion, Suhas Tejaskanda, Founder and CEO of FWDA, said, "For decades, India has relied on foreign systems like Predator and Israeli Searcher models, but at a high strategic cost, from embedded kill-switch vulnerabilities to critical flight data routed through external servers."

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Garuda Aerospace launches defence drone facility in Chennai

Source: The Pioneer, Dt. 23 Aug 2025

PIONEER NEWS SERVICE
Chennai

Following the successful launch of its Agridrone facility Garuda Aerospace, hosted Sanjay Seth, Union Minister of State for Defence, for the inauguration of its Defence Drone Facility at Thalambur in Chennai on August 22, 2025.

This landmark occasion underscores Garuda Aerospace's unwavering commitment to advancing indigenous drone technology, strengthening India's defence capabilities, and driving the nation's vision of 'Atmanirbhar Bharat'.

During the ceremony, Sanjay Seth officially inaugurated the facility and unveiled five advanced UAV systems Avalanche Victim Drone — designed for high-altitude search and rescue missions; Swarm Drone-enabling coordinated strike and surveillance capabilities, Jawan Drone — tailored for frontline soldier support and tactical operations, Canister Dropping Drone— for rapid battlefield payload deployment and Droni 2.0- the upgraded, multipurpose UAV for defence and civilian applications each designed for critical defence and disaster response applications.

The Minister also launched the Garuda Raksha Udaan 2025 Impact Book, highlighting Garuda Aerospace's journey, key milestones, and contributions to India's defence preparedness and drone technology evolution.

Further strengthening its research and development ecosystem, Garuda Aerospace announced the establishment of a Defence Drone Lab in collaboration with the 13 JAK Rifles (Ladakh and Gwalior) to foster decentralised innovation for mission-specific requirements. The company also introduced a Free Remote Pilot Certification (RPC) Program for Indian defence personnel, with the first batch of Jawans receiving their certifications during the event.

Additional initiatives unveiled included the launch of Garuda Akash Raksha Vans (GAR Vans) mobile drone deployment, maintenance, and repair centres designed to support defence commands and units across the country and free drone training programs for the widows of fallen heroes, underscoring Garuda Aerospace's commitment to social impact and support for India's defence community.

Agnishwar Jayaprakash, Founder and CEO, Garuda Aerospace, said, "At Garuda Aerospace, our mission is to make India self-reliant in defence drone technology. Secure indigenous production, accelerated R&D, and rigorous multi-theatre testing are not just strategies, they are imperatives to safeguard our nation's sovereignty.

By 2027, we aim to ensure that India is not only prepared for the future of drone warfare but is also setting global benchmarks in innovation and reliability"

"Today marks a historic step in India's journey towards Atmanirbharta in defence and technology with the inauguration of Garuda Aerospace's world-class drone facility in Chennai. This hub is not just about manufacturing advanced UAV systems; it represents a complete ecosystem of design, R&D, incubation, certification, and production integrating academia, industry, and defence. Inspired by the vision articulated by Shri Rajnath Singhji at the Delhi Defence Dialogue 2024, it demonstrates how indigenous innovation, driven by young engineers and entrepreneurs, can meet India's modern defence needs while also serving civilian applications in agriculture, disaster management, and infrastructure. The synergy between Agni College of Technology and Garuda Aerospace highlights how technical education, research, and industrial capability can align with Make in India and Atmanirbhar Bharat to build niche technologies, ensure quality standards, and create global leadership in drones.

The Ministry of Defence is committed to supporting such initiatives that safeguard our skies, empower our armed forces, and advance India's position as a future global drone hub," said Seth.

Further cementing its role in India's UAV growth story, Garuda Aerospace announced the laying of the foundation stone for a state-of-the-art Defence Park at Cheyyur, Tamil Nadu.

Designed to serve as a hub for drone innovation, manufacturing, and testing, the facility will foster a robust ecosystem for defence-focused UAV solutions. Spread over 76 acres along the East Coast Road (ECR), the Cheyyur facility is envisioned to become India's most advanced indigenous hub for AI-powered, precision weaponized drone systems.

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Rajnath Singh interacts with Global women peacekeepers, calls them 'Torchbearers of Change'

Source: The Pioneer, Dt. 23 Aug 2025

PIONEER NEWS SERVICE
New Delhi

Defence Minister Rajnath Singh on Friday said "we are strengthening policies" to encourage women's participation in the armed forces and peacekeeping contingents to ensure that they have equal opportunities to "lead and serve".

Singh said this in his address during an interaction with women officers of 15 countries, alongside India, who are participating in a nearly two-week long United Nations Women Military Officers Course (UNWMOC-2025).

Organised by the Centre for United Nations Peacekeeping under the aegis of the Ministry of Defence and Ministry of External Affairs from August 18-29 at the Manekshaw Cente, the course aims to build professional capacity of woman military officers for effective participation in multidimensional UN missions, the defence ministry said in a statement.

Addressing the participating officers at South Block, Singh said, as the largest contributor to UN peacekeeping missions, India has been a "strong supporter of women's participation and their integration into these missions", and initiatives such as UNWMOC prepares woman officers for complex peacekeeping environments.

"We are strengthening policies to encourage women's participation in our armed forces and peacekeeping contingents, ensuring they have equal opportunities to lead and serve," he said.

"We will continue to work with the UN and troop-contributing countries to advance gender parity, foster inclusive leadership, and create a world where peace is not just sustained but thrives through diversity and equality," Singh was quoted as saying in the statement.

UNWMOC-2025 has brought together participants from Armenia, Congo, Egypt, Ivory Coast, Kenya, Kyrgyz Republic, Liberia, Malaysia, Morocco, Nepal, Sierra Leone, Sri Lanka, Tanzania, Uruguay and Vietnam, alongside 12 Indian woman officers and five interns, making the course a vibrant international platform for training and exchange, it said.

Defence Minister Rajnath Singh, Army chief General Upendra Dwivedi and others during a meeting with women military officers participating in the United Nations Peacekeeping mission in New Delhi PTI

Singh described the presence of officers from 15 countries as a "reflection of a microcosm of the UN and its enduring spirit of unity and cooperation".

"You are the torchbearers of change. Your dedication strengthens not only peacekeeping, but also the very fabric of global security. India stands with you, proud of your contributions, and steadfast in its commitment to support your journey," he told the officers.

On the vision of the UN to increase the participation of woman officers in peacekeeping missions, Singh said this commitment stems from the recognition that woman peacekeepers are essential to making the missions more effective, inclusive, and sustainable.

"Woman officers bring invaluable perspectives and approaches to peace operations. They are often able to foster deeper trust with local communities, particularly with women and children, whose voices are vital in rebuilding societies torn by conflict," the minister said.

"Their presence has been shown to help prevent sexual violence, improve access to humanitarian assistance and increase gender equality on the ground," he added.

The defence minister also said that woman peacekeepers serve as "powerful role models", inspiring local women and girls to see themselves as active participants in peace and security, adding that India's own journey in peacekeeping reflects this very belief in the power and potential of woman officers.

Singh also unveiled the UN Journal 2025 — 'Blue Helmet Odyssey: 75 Years of Indian Peacekeeping' — a platinum jubilee edition, which captures India's legacy, innovations, and future vision in UN peacekeeping.

Reflecting on the blue colour of its helmets, Singh said that like the sky, the UN peacekeepers offer protection and a sense of security, and like the oceans, they build connections across borders and cultures.

The Chief of Army Staff General Upendra Dwivedi and other senior officers were present during the interaction. The curriculum of UNWMOC-2025 includes key aspects of modern peacekeeping such as international humanitarian law, refugees and internally displaced people, protection of civilians, conduct and discipline, conflict-related sexual violence and child protection in conflict, the ministry said.

Speakers from the UN, the Ministry of External Affairs, international organisations and Indian Army veterans are addressing the participants, the statement said.

A field demonstration by an infantry battalion nominated for UN will enhance practical understanding, it added.

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भारतीय सेना में अब बढ़ेगी महिलाओं की भागीदारी

Source: Jansatta, Dt. 23 Aug 2025

जनसत्ता ब्यूरो
नई दिल्ली, 22 अगस्त।

रक्षा मंत्री राजनाथ सिंह ने शुक्रवार को कहा कि सशस्त्र बलों और शांति सेना में महिलाओं की भागीदारी को प्रोत्साहित करने के लिए हम नीतियों को मजबूत कर रहे हैं' ताकि यह सुनिश्चित किया जा सके कि उन्हें नेतृत्व और सेवा करने के समान अवसर मिलें।

सिंह ने यह बात भारत के साथ-साथ 15 देशों की महिला अधिकारियों के साथ बातचीत के दौरान कही, जो यहां आयोजित लगभग दो सप्ताह लंबे संयुक्त राष्ट्र महिला सैन्य अधिकारी पाठ्यक्रम (यूएनडब्लूएमओसी-2025) में भाग ले रही हैं। रक्षा मंत्रालय ने कहा कि रक्षा मंत्रालय और विदेश मंत्रालय के तत्वावधान में संयुक्त राष्ट्र शांति स्थापना केंद्र द्वारा 18-29 अगस्त, 2025 तक आयोजित इस पाठ्यक्रम का उद्देश्य बहुआयामी संयुक्त राष्ट्र मिशनों में प्रभावी भागीदारी के लिए महिला सैन्य अधिकारियों की पेशेवर क्षमता का निर्माण करना है। रक्षा मंत्री ने कहा कि संयुक्त राष्ट्र शांति अभियानों में सबसे बड़े योगदानकर्ता के रूप में, 'भारत महिलाओं की भागीदारी और इन अभियानों में उनके शामिल होने का प्रबल समर्थक रहा है'।

नई दिल्ली में शुक्रवार को संयुक्त राष्ट्र शांति मिशन में भाग लेने वाली महिला सैन्य अधिकारियों के साथ बैठक के दौरान रक्षा मंत्री राजनाथ सिंह, सेना प्रमुख जनरल उपेंद्र द्विवेदी व अन्य।

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ऑपरेशन सिन्दूर की धमक रही रैम्पेज मिसाइल का बड़ा ऑर्डर देगा भारत

Source: Dainik Jagran, Dt. 23 Aug 2025

- इजरायल निर्मित मिसाइल का आपरेशन सिंदूर में हुआ था प्रयोग
- रैंपेज हाई-स्पीड हवा से जमीन पर मार करने वाली मिसाइल

नई दिल्ली, एएनआइः आपरेशन सिंदूर के दौरान पाकिस्तानी हवाई ठिकानों और आतंकवादी मुख्यालयों पर सफल हमले के बाद भारतीय वायुसेना इजरायल से बड़ी संख्या में हवा से जमीन पर मार करने वाली रैंपेज मिसाइलों का आर्डर देने की प्रक्रिया शुरू कर दी है। रैंपेज मिसाइलों को भारतीय वायुसेना में हाई स्पीड लो ड्रैग-मार्क 2 मिसाइल के नाम से जाना जाता है। इनको पहले से ही सुखोई-30 एमकेआइ, जगुआर व मिग-29 लड़ाकू विमान बेड़े के साथ जोड़ा जा चुका है।

रक्षा सूत्रों ने बताया कि ये मिसाइलें आपातकालीन खरीद प्रक्रिया (फास्ट ट्रैक प्रोसीजर) के तहत बड़ी संख्या में खरीदी जा रही हैं। रैंपेज मिसाइलों का इस्तेमाल सुखोई-30 एमकेआइ विमानों से पाकिस्तान के पंजाब प्रांत में मुरिदके और बहावलपुर में स्थित आतंकवादी मुख्यालयों को अत्यंत सटीकता के साथ नष्ट करने के लिए किया गया। रैंपेज एक हाई-स्पीड हवा से जमीन पर मार करने वाली मिसाइल है, जिसे भारत ने पहली बार 2020-21 में गलवन घाटी में चीन के साथ संघर्ष के दौरान खरीदा था।

रैंपेज मिसाइलों का सुखोई-30 एमकेआइ के साथ सफल एकीकरण ने रूसी मूल के इस विमान बेड़े की मारक क्षमता को काफी हद तक बढ़ा दिया है। इस एकीकरण से 400 किलोमीटर से अधिक की मारक क्षमता वाली ब्रह्मोस सुपरसोनिक मिसाइलों सहित कई लंबी दूरी की हवा से जमीन पर मार करने वाली मिसाइलों को दागना संभव हो गया।

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India-Thailand joint military exercise to be held from September

Source: The Pioneer, Dt. 24 Aug 2025

The 14th edition of a joint exercise between the militaries of India and Thailand is set to take place in Meghalaya's Umroi from September 1 to 14, the Indian Army said on Saturday.

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Science & Technology News

गगनयान पैराशूट सिस्टम के लिए पहला एयर-ड्रॉप परीक्षण सफल

Source: Dainik Jagran, Dt. 25 Aug 2025

आंध्र प्रदेश के श्रीहरिकोटा के निकट इसरो ने गगनयान मिशन के लिए पहला एकीकृत एयर ड्राप परीक्षण (आइएडीटी-01) किया। यह परीक्षण इसरो, वायु सेना, डीआरडीओ, नौसेना और भारतीय तटरक्षक बल ने संयुक्त रूप से किया • एएनआइ

ऐसी होगी प्रक्रिया

- गगनयान मिशन के तहत अंतरिक्षयात्रियों को अंतरिक्ष में भेजने से पहले व्योममित्र रोबोट को अंतरिक्ष में भेजा जाएगा।
- इसरो ने हाल ही में सर्विस माड्यूल प्रोपल्शन सिस्टम (एसएमपीएस) का परीक्षण किया था। इस सिस्टम का 350 सेकेंड तक हाट टेस्ट किया गया, जो सफल रहा था।
- परीक्षण का मकसद यह देखना था कि अगर उड़ान के दौरान गड़बड़ी हो जाए और मिशन रोकना पड़े (जिसे 'मिशन एबार्ट' कहा जाता है), तो यह सिस्टम सही तरीके से काम करता है या नहीं।
- इसरो ने बताया कि एसएमपीएस को परखने के लिए सिस्टम डेमोंस्ट्रेशन माडल (एसडीएम) तैयार किया गया। इसमें वह सभी हिस्से शामिल थे जो असली सिस्टम में होंगे।

इस तरह हुआ परीक्षण

- परीक्षण के लिए चिनूक हेलीकाप्टर डमी क्रू माड्यूल को श्रीहरिकोटा समुद्र तट से 40 किमी दूर लगभग तीन किलोमीटर की ऊंचाई तक ले गया।
- समुद्र में गिरने से पहले क्रू माड्यूल की गति धीमी करने के लिए तीन मुख्य पैराशूट लगाए गए थे। परीक्षण पूरी तरह से सफल रहा। सभी पैराशूटों ने उम्मीद के मुताबिक काम किया और गति को मानव जीवन के लिए सुरक्षित सीमा तक कम कर दिया।
- नौसेना ने माड्यूल बरामद कर लिया और इसरो को सौंप दिया। इसी क्रू माड्यूल का इस्तेमाल अन्य परीक्षणों के लिए भी किया जाएगा।

बेंगलुरु, प्रेट्र : इसरो ने गगनयान मिशन के लिए रविवार को पहला एकीकृत एयर ड्राप परीक्षण (आइएडीटी-01) किया। परीक्षण के दौरान गगनयान मिशन के पैराशूट आधारित सिस्टम की क्षमता का परीक्षण किया गया ताकि अंतरिक्ष से लौटते समय अंतरिक्षयात्रियों की सुरक्षित लैंडिंग हो सके।

इसरो के अधिकारी ने बताया कि आंध्र प्रदेश के श्रीहरिकोटा के निकट इसरो , वायुसेना, रक्षा अनुसंधान और विकास संगठन (डीआरडीओ), नौसेना और भारतीय तटरक्षक बल ने संयुक्त रूप से परीक्षण किया।

- वायुसेना, नौसेना, तटरक्षक बल, डीआरडीओ की मदद से किया गया परीक्षण
- अंतरिक्षयात्रियों की सुरक्षित वापसी के लिए जांची गई पैराशूट सिस्टम की क्षमता

सुरक्षित वापसी को महत्वपूर्ण

गगनयान मिशन में पृथ्वी की 400 किलोमीटर पर स्थित निचली कक्षा में तीन अंतरिक्षयात्रियों को भेजा जाएगा। यह भारत का पहला मानव अंतरिक्ष उड़ान मिशन होगा। पैराशूट आधारित धीमीकरण तंत्र चालक दल के माड्यूल की पुन: प्रवेश और लैंडिंग के दौरान सुरक्षित वापसी सुनिश्चित करने के लिए महत्वपूर्ण है।

3 अंतरिक्षयात्रियों को भेजा जाएगा पृथ्वी की 400 किमी पर स्थित निचली कक्षा में

350 सेकेंड तक हाट टेस्ट किया गया था सर्विस माड्यूल प्रोपल्शन सिस्टम का

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Gaganyaan: ISRO completes key first integrated drop test

Source: The Times of India, Dt. 25 Aug 2025

After several delays, the Indian Space Research Organisation (Isro), early Sunday completed the first integrated air-drop test (IADT-01), a critical exercise to validate the parachute system that will bring back astronauts safely under the Gaganyaan mission, from its spaceport in Sriharikota.

The IADT-01, VSSC director A Rajarajan told TOI soon after the test, involved dropping a simulated crew module with a mass of around 5 tonnes from an Indian Air Force (IAF) Chinook helicopter from an altitude of 3.1km.

In line with Isro's plan, the drop took place over the Bay of Bengal and lasted about an hour from take-off to recovery, though the final parachute deployment sequence was completed in just 2-3 minutes. "The test met all the objectives that we had," Rajarajan said.

The IADT-01 was designed to evaluate the full suite of parachutes that will slow down and stabilise the crew module during re-entry and splashdown of the actual human spaceflight mission.

ISRO said it had successfully demonstrated the end-to-end performance of the critical parachute-based deceleration system that will be used in the Gaganyaan mission.

The test, carried out in one of the typical mission scenarios, was part of the overall qualification programme for the system. "This was an end-to-end validation of the parachute-based deceleration system for the Crew Module, tested in a real-world environment," Isro said.

In Gaganyaan flights, this parachute system is deployed during the terminal phase of descent, slowing down the Crew Module before splashdown. Its role is to reduce touchdown velocity to safe limits for crew recovery at sea. For the trial, the layout of the parachute system was identical to that planned for the mission itself. It comprised four types of parachutes: Apex Cover Separation (ACS), Drogue, Pilot, and Main parachutes. There were two each of ACS and Drogue parachutes and three each of Pilot and Main.

"The sequence began with the firing of the ACS mortars that deployed two ACS parachutes, ensuring safe separation of the apex cover," Isro explained. This was followed by the deployment of two drogue parachutes, each 5.8 m in diameter, which provided the first stage of deceleration.

Once this phase was complete, the drogues were released using pyro-based mechanisms, clearing the way for three pilot parachutes to be deployed. These, in turn, extracted the three large main parachutes of 25 m diameter each, which slowed the module to a terminal velocity of about 8 m/s. The entire series of events was executed in precise sequence, allowing the simulated Crew Module to achieve a safe splashdown. After touchdown, the parachutes were detached automatically.

ISRO said the test simulated a possible abort scenario at the launch pad, allowing onboard avionics to command and control the deceleration process. The avionics suite also measured and telemetered performance data to the ground, while simultaneously storing it onboard in a Solid State Data Recorder. Following splashdown, the module was successfully recovered and ferried by INS Anvesha to Chennai port.

To prepare for this test, extensive modelling was carried out to account for the dynamics of carrying the module underslung beneath the helicopter. “We conducted multiple sorties with a dummy module and the Chinook to validate the mission profile and refine standard operating procedures,” Isro said. Only after clearance by the Test Authorisation Board was the actual trial flown.

The agency said that the achievement was the result of close coordination among multiple stakeholders. In addition to Isro centres, the Defence Research and Development Organisation, the Indian Air Force, Indian Navy, and Indian Coast Guard contributed to the operation. Further tests of the parachute system under different deployment conditions are planned in the days ahead, the agency confirmed.

ISRO has planned multiple IADT sorties to fine-tune the parachute deployment sequence further. The agency is also preparing for upcoming tests such as the second Test Vehicle Demonstration (TV-D2) mission and the first uncrewed Gaganyaan mission (G1), which will pave the way for India’s maiden human spaceflight.

While both TV-D2 and G1 are targeted for later this year, there have been no official statements by Isro with exact dates. Isro chairman V Narayanan has said on multiple occasions in the past few months that they will be achieved by the end of this year. However, sources indicated that G1 could even slip to early next year, but refrained from committing to a date. As reported by TOI earlier, after the initial pre-mission trials for IADT-01 in May 2024, Isro had put the actual exercise on hold because a need to revisit “some aspects” of the helicopter selected to carry out the test, arose.

“...During the pre-mission trials for the first IADT in Sriharikota, it was noticed that the helicopter may have ‘some issues’ that needed to be addressed. That is progressing now,” a source had told TOI. Those issues have since been resolved and sources said that once the complete analysis of the IADT-01 test data is complete, plans for future tests will be drawn up. ISRO’s initial plans were to conduct seven IADTs, with the final number depending on the test results.

https://timesofindia.indiatimes.com/science/gaganyaan-isro-completes-key-first-integrated-drop-test/articleshow/123482360.cms

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Operation Sindoor gave us chance to use space technologies on Pakistani soil: Minister

Source: The Times of India, Dt. 24 Aug 2025

Space minister Jitendra Singh on Saturday revealed during National Space Day that space technology played a significant role during Operation Sindoor.

While mentioning the operation during which India launched missiles deep into Pakistan after the Pahalgam terror attack, the minister said, “A few months ago, you saw Operation Sindoor. What you saw was the full presentation of Indian space technology from Earth to space. All you saw was the energy of two key departments — the department of space and department of atomic energy. But what is more important is that these capabilities have been achieved in the last 10 years. Technology development and technology transfer happened in the last 10 years.”

“Operation Sindoor gave us an opportunity to test these technologies on Pakistan soil. And, the world got to know what has happened in the last 11 years of the Modi government,” he said.

Soon after the operation, Isro chairman V Narayanan had said in May, “At least 10 satellites are working 24x7 for the strategic purpose to ensure the safety and security of the citizens of this country. Without satellite and drone tech, we cannot achieve that (operation).”

ISRO's satellites provide physical and navigation services for the military.

Space-based navigation services of NavIC are used to guide weapons and missiles to their specific targets, Insat satellites provide weather condition information and communication services to the armed forces, Gsat services are being used for strategic communication operations and SAR satellites like Risat provide earth surveillance and observation data.

While outlining Isro’s future programmes, which started in 2025 with the launch of an advanced NavIC satellite and will be followed later this year by the uncrewed Gaganyaan-1 mission with a humanoid, the minister said the two of the four astronauts will go to space as part of the manned Gaganyaan mission in 2027. “Thereafter, many more astronauts will go to space,” he said.

The manned mission will be followed by Chandrayaan-4 in 2028, a mission to Venus, and the establishment of the proposed Bharat Antariksh Station by 2035. Singh said India has set its sights on placing an astronaut on the Moon by 2040, an endeavour that would symbolically mark the country’s journey towards becoming a developed nation by 2047.

India plans to launch more than 100 satellites over the next 15 years, and it will be a mix of govt technology missions and private sector-led operational missions, he said while releasing a roadmap for the space sector for the next 15 years.

Singh said the roadmap will guide India's space journey to 2040 and beyond, supporting the vision of Viksit Bharat by leveraging space technology for food and water security, disaster resilience, environmental sustainability and inclusive growth.

https://timesofindia.indiatimes.com/india/operation-sindoor-gave-us-chance-to-use-space-technologies-on-pakistan-soil-minister/articleshow/123477995.cms

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अंतरिक्ष क्षेत्र को लेकर नीति आयोग के सदस्य वीके सारस्वत ने कहा, 'उभरते देशों को एकजुट करे भारत'

Source: Jansatta, Dt. 23 Aug 2025

जनसत्ता ब्यूरो
नई दिल्ली, 22 अगस्त।

नीति आयोग के सदस्य वीके सारस्वत ने शुक्रवार को कहा कि अंतरिक्ष क्षेत्र में रुचि रखने वाले उभरते देशों को एकजुट कर अंतरराष्ट्रीय अंतरिक्ष गठबंधन बनाने में भारत को एक प्रमुख भूमिका निभानी चाहिए। उन्होंने कहा कि इससे आर्थिक विकास के लिए अंतरिक्ष परिसंपत्तियों और उपग्रह नेटवर्क की निगरानी जैसे साझा महत्व के क्षेत्रों पर ध्यान केंद्रित किया जा सकेगा। भारत 2023 में चंद्रमा के दक्षिणी ध्रुव पर 'चंद्रयान-3' के उतरने के उपलक्ष्य में 23 अगस्त को राष्ट्रीय अंतरिक्ष दिवस मनाता है।

राष्ट्रीय अंतरिक्ष दिवस पर अपने संबोधन में सारस्वत ने कहा कि वर्तमान परस्पर निर्भर विश्व में वैश्विक अंतरिक्ष गठबंधन एक प्रमुख आवश्यकता है, जहां भारत विभिन्न देशों के साथ अंतरिक्ष प्रणालियों, अनुप्रयोगों के विकास और उनके उपयोग पर काम कर रहा है।

शीर्ष मिसाइल वैज्ञानिक ने कहा, 'वैश्विक स्तर पर, नए अंतरिक्ष युग को बड़े रुझानों द्वारा परिभाषित किया जा रहा है। हम छोटे उपग्रहों, अंतरिक्ष निर्माण और अंतरिक्ष डेटा को आइओटी (इंटरनेट आफ थिंग्स), स्वचालन और शासन में एकीकृत करने वाले अनुप्रयोगों के समूह की बात कर रहे हैं।'

सारस्वत 'नेशनल मीट-2' को संबोधित कर रहे थे, जो इसरो और विभिन्न सरकारी विभागों के बीच एक संवाद कार्यक्रम था। इस आयोजन में भारतीय अंतरिक्ष अनुसंधान संगठन (इसरो) के अध्यक्ष वी नारायणन और भारतीय राष्ट्रीय अंतरिक्ष संवर्धन एवं प्राधिकरण केंद्र (आइएनएसपीएसीई) के अध्यक्ष पवन गोयनका भी शामिल हुए।

उन्होंने कहा कि अंतरिक्ष परिसंपत्तियों की निगरानी, आर्थिक विकास के लिए उपग्रह नेटवर्क, सीमा सुरक्षा, पर्यटन, अंतरिक्ष में मलबे में कमी लाने, अंतरिक्ष अन्वेषण, अंतरिक्ष आधारित ऊर्जा और भविष्य के लिए कानूनी ढांचे के संबंध में एक वैश्विक गठबंधन आवश्यक है।

सारस्वत ने कहा कि अपनी वैज्ञानिक प्रतिभा, मजबूत औद्योगिक आधार और उद्यमशीलता की भावना के साथ भारत वैश्विक परिदृश्य में एक बड़ी भूमिका निभाने के लिए पूरी तरह तैयार है।

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Deep space exploration next, prepare for it: Modi to scientist

Source: The Times of India, Dt. 24 Aug 2025

On the country's second National Space Day, PM Narendra Modi on Saturday announced that India has already reached the Moon and Mars, and now it is time we "must explore deeper regions of space". Emphasising that these unexplored areas hold vital secrets for the future of humanity, the PM announced, "Beyond galaxies lies our horizon!"

"India is rapidly advancing in breakthrough technologies such as semi-cryogenic engines and electric propulsion, and very soon, with the dedicated efforts of our scientists, India will launch the Gaganyaan mission and, in the coming years, build its own space station," Modi said in a special message, revealing India's upcoming big missions. He also invited young citizens to join India's 'astronaut pool' and help give flight to the country's aspirations.

The PM urged the private sector to come forward and build five space Unicorns in the next five years. "At present, we have five big launches every year; can we scale it to 50 rockets every year, that is one per week?" he asked the private sector. He also announced that the first PSLV rocket built by the private sector will soon be launched.

Modi expressed happiness that India's first private communication satellite is also under development and said preparations are underway to launch an earth observation satellite constellation through public-private partnership. "A vast number of opportunities are being created for India's youth in the space sector," he said.

The PM highlighted that over 350 startups are emerging as engines of innovation and acceleration in space technology. India is, at present, hosting the International Olympiad on Astronomy and Astrophysics, with nearly 300 young participants from over sixty countries.

Recalling that two years ago, India became the first country to reach the South Pole of the Moon, creating history, the PM highlighted that India has also become the fourth country in the world to possess docking-undocking capabilities in space.

He shared that just three days ago, he met Group Captain Shubhanshu Shukla, who unfurled the national flag at the International Space Station, filling every Indian with pride. He said when Group Captain Shukla showed him the tricolour, the feeling of touching it was beyond words.

“Space-tech is increasingly becoming an integral part of governance in India”, Modi said citing examples such as satellite-based assessment in crop insurance schemes, satellite-enabled information and safety for fishermen, disaster management applications, and the use of geospatial data in the PM Gati Shakti National Master Plan.

He informed that to further promote the use of space-tech across central and state governments, National Meet 2.0 was organised on Friday. He expressed his desire for such initiatives to continue and expand. He said India’s journey in space will reach new heights in the coming times.

https://timesofindia.indiatimes.com/india/deep-space-exploration-next-prepare-for-it-modi-to-scientists/articleshow/123478045.cms

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Indigenous clocks delay ISRO’s plans to replace defunct Navic satellites

Source: The Hindu, Dt. 24 Aug 2025

Officials at the Indian Space Research Organisation (ISRO) say they are looking to launch at least three satellites before 2026-end, to replace defunct satellites that are part of the ‘Indian GPS’ or Navic (Navigation with Indian constellation) system. However, there seems to be a key element impeding the launch — the development of indigenous clocks.

NVS-02 undergoing a vibration test.

These high-precision clocks — now proposed at five per satellite — are what provides accurate timing (and hence location) services to users on earth. The Navic satellites provide more accurate location services to the military and slightly less accurate ones for civilian purposes.

Nine satellites of the Indian Regional Navigation Satellite System (IRNSS), informally called Navic, have been launched since 2013. Eight of them reached their intended orbit. The last of this constellation of satellites (IRNSS-1I) was launched in 2018. These constellation of satellites are akin to the Russian GLONASS, the Chinese Beidou, the American GPS and European Galileo constellation of satellites to provide location services. However, the Navic, is expected to do so only within India and a radius of 1,500 km. This is however viewed more as a fall back system in the case of future global conflicts and India being denied access to these foreign constellations.

Last month, the ISRO revealed via a Right To Information request that five of the Navic satellites were completely defunct with all three of their clocks in each satellite not working. In one of the three satellites with functioning atomic clocks, two of the three clocks have failed. Only two satellites of the constellation, therefore, have functional atomic clocks. The atomic clocks in this constellation of satellites were imported by the ISRO from the firm SpectraTime.

For the next series of satellites to replace the impaired and ageing fleet of IRNSS satellites —two of the three being used have passed or are close to their rated shelf life of 10 years though it's possible for these systems to function beyond — the ISRO has decided to install indigenously developed rubidium clocks.

"Each satellite will have five clocks though we are still in the process of developing them," Nilesh Desai, Director, Space Applications Centre, a key part of the ISRO, told The Hindu on the sidelines of a conclave in Delhi to commemorate National Space Day on Saturday.

Another official familiar with the ISRO said that while the rubidium clocks are based on an indigenous design, there were key components that needed to be imported and this was contributing to procurement challenges and delays in commissioning.

So far, to replace its decrepit fleet of IRNSS satellites, ISRO has launched two satellites NVS-01 in May 2023 and NVS-02 in January 2025. Only NVS-01 successfully reached its designated orbit and is working as intended, with NVS-02 failing to reach the specific orbit required to function as a navigational satellite.

By 2040, India is aiming to launch at least a 100 satellites, several of them to provide earth imaging and communication services for both government and private sector applications.

https://www.thehindu.com/sci-tech/science/indigenous-clocks-delay-isros-plans-to-replace-defunct-navic-satellites/article69969206.ece

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प्रधान मंत्री बोले - अगला कदम अंतरिक्ष अन्वेषण

Source: Dainik Jagran, Dt. 24 Aug 2025

प्रधानमंत्री ने राष्ट्रीय अंतरिक्ष दिवस पर विज्ञानियों से कहा, इसके लिए तैयारी करें

नई दिल्ली, प्रेट्र : प्रधानमंत्री नरेन्द्र मोदी ने शनिवार को विज्ञानियों को नया लक्ष्य देते हुए कहा कि अगला कदम गहन अंतरिक्ष का अन्वेषण करना है। प्रधानमंत्री ने विज्ञानियों से गहरे अंतरिक्ष अन्वेषण मिशन की तैयारी करने का आग्रह किया ताकि मानवता के भविष्य को उजागर करने वाले रहस्यों को समझा जा सके। राष्ट्रीय अंतरिक्ष दिवस पर वीडियो संबोधन में पीएम मोदी ने घोषणा की कि भारत "अंतरिक्षयात्री पूल" तैयार कर रहा है। उन्होंने युवाओं को इस पूल या समूह में शामिल होने के लिए आमंत्रित किया।

गौरतलब है कि 2023 में 23 अगस्त को ही चंद्रयान-3 मिशन के तहत भारत चंद्रमा के दक्षिण ध्रुव पर सफल साफ्ट लैंडिंग करने वाला दुनिया का पहला देश बना था। चंद्रयान-3 मिशन की सफलता की याद में हर साल 23 अगस्त को राष्ट्रीय अंतरिक्ष दिवस मनाया जाता है। पीएम मोदी ने कहा, हम चंद्रमा और मंगल तक पहुंच गए हैं। अब हमें गहरे अंतरिक्ष में झांकना है, जहां मानवता के भविष्य के लिए लाभकारी कई रहस्य छिपे हैं।

प्रधानमंत्री ने कहा, भारत सेमी-क्रायोजेनिक इंजन और इलेक्ट्रिक प्रोपल्शन जैसी महत्वपूर्ण तकनीकों में तेजी से आगे बढ़ रहा है। भारतीय विज्ञानियों की कड़ी मेहनत की बदौलत भारत जल्द ही गगनयान मिशन लांच करेगा और अपना अंतरिक्ष स्टेशन भी बनाएगा। प्रधानमंत्री ने निजी क्षेत्र के आगे आने की इच्छा जताई ताकि भारत अगले पांच वर्षों में हर साल 50 राकेट प्रक्षेपित कर सके। पीएम ने कहा कि तीन दिन पहले ही उनकी मुलाकात ग्रुप कैप्टन शुभांशु शुक्ला

प्रधानमंत्री ने निजी क्षेत्र के आगे आने की इच्छा जताई ताकि भारत अगले पांच वर्षों में हर साल 50 राकेट प्रक्षेपित कर सके। पीएम ने कहा कि तीन दिन पहले ही उनकी मुलाकात ग्रुप कैप्टन शुभांशु शुक्ला

से हुई थी, जिन्होंने अंतरराष्ट्रीय अंतरिक्ष स्टेशन (आइएसएस) पर राष्ट्रीय ध्वज तिरंगा फहराया था। इस बीच गृह मंत्री अमित शाह ने एक्स पर पोस्ट किया, राष्ट्रीय अंतरिक्ष दिवस पर हम उस

ऐतिहासिक क्षण का जश्न मनाते हैं जब चंद्रयान-3 ने चंद्रमा के दक्षिणी ध्रुव को छुआ। उस समय हर भारतीय का दिल गर्व से भर गया। मैं इसरो के प्रतिभाशाली वैज्ञानिकों को हार्दिक बधाई देता हूं।

वहीं अंतरिक्षयात्री शुभांशु शुक्ला ने कहा कि वर्तमान समय अंतरिक्ष अन्वेषण में भारत के लिए "स्वर्णिम काल" है। शुभांशु ने नेहरू तारामंडल में आर्यभट्ट गैलरी का उद्घाटन भी किया।

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एस्ट्रोनॉट पूल बना रहा भारत, युवाओं को आगे आना होगा: पीएम

Source: NavBharat Times, Dt. 24 Aug 2025

मोदी ने कहा, अगला कदम डीप स्पेस एक्सप्लोरेशन, इसके लिए तैयार रहें

NBT 2 मिनट में पढ़ें

■ पीटीआई, नई दिल्ली

प्रधानमंत्री नरेन्द्र मोदी ने शनिवार को नैशनल स्पेस डे पर स्पेस वैज्ञानिकों से कहा कि अब समय आ गया है कि भारत डीप स्पेस की ओर कदम बढ़ाए, ताकि उन रहस्यों को उजागर किया जा सके जो मानवता के भविष्य को रोशन करेंगे। विडियो संदेश के जरिए वैज्ञानिकों, छात्रों और नीति-निर्माताओं को संबोधित करते हुए पीएम ने घोषणा की कि भारत भविष्य के मिशनों के लिए स्पेस यात्रियों का एक समूह (Astronaut Pool) तैयार करने जा रहा है और अधिक से अधिक युवा इसमें शामिल हों।

सेमी-क्रायोजेनिक इंजन जैसी तकनीक पर काम तेज़ : प्रधानमंत्री मोदी ने कहा, हम चंद्रमा और मंगल तक पहुंच चुके हैं। अंतरिक्ष क्षेत्र में लगातार उपलब्धियां हासिल करना अब भारत और उसके वैज्ञानिकों की स्वाभाविक पहचान बन गई है। आकाशगंगाओं से परे भी हमारी सीमाएं हैं। यह असीम ब्रह्मांड हमें बताता है कि कोई भी सीमा अंतिम नहीं है।

पीएम मोदी ने बताया कि भारत इलेक्ट्रिक प्रपल्शन (Electric Propulsion) और सेमी-क्रायोजेनिक इंजन जैसी अत्याधुनिक तकनीकों पर तेजी से काम कर रहा है। उन्होंने विश्वास जताया कि वैज्ञानिकों की मेहनत से जल्द ही गगनयान मिशन पूरा होगा और भारत अपना खुद का अंतरिक्ष स्टेशन भी बनाएगा।

PTI

केंद्रीय विज्ञान और प्रौद्योगिकी मंत्री जितेंद्र सिंह, इसरो चेयरमैन वी. नारायणन, ग्रुप कैप्टन शुभांशु समेत अन्य लोगों ने PM मोदी का संबोधन लाइव देखा।

स्पेस स्टार्टअप्स को टारगेट : प्रधानमंत्री ने निजी क्षेत्र की भूमिका पर जोर देते हुए कहा, क्या अगले पांच सालों में हमारी पांच स्पेस स्टार्टअप कंपनियां यूनिकॉर्न बन सकती हैं? क्या हम हर साल 50 रॉकेट लॉन्च करने का टारगेट हासिल कर सकते हैं?

वहीं, भारत मंडपम में इसरो द्वारा नैशनल स्पेस डे पर आयोजित एक समारोह में बोलते हुए शुभांशु शुक्ला ने कहा कि भारत अभी स्पेस की गोल्डन एज में है। दो साल पहले नैशनल स्पेस डे जैसा हमारे पास कुछ भी नहीं था।

पढ़ाई में शामिल हुए शुभांशु और चंद्रयान

■ NBT रिपोर्ट, नई दिल्ली : राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद (NCERT) ने अंतरिक्ष शक्ति के रूप में भारत का उदय थीम पर दो विशेष मॉड्यूल जारी किए हैं। नैशनल स्पेस डे के मौके पर जारी किए गए इन विशेष मॉड्यूल के जरिए मिडिल और सेकेंडरी क्लासेज के छात्र चंद्रयान से लेकर आदित्य एल1, शुभांशु शुक्ला का इंटरनैशनल स्पेस स्टेशन के सफर समेत फ्यूचर रोडमैप के बारे में पढ़ेंगे। "इंडिया-ए राइजिंग स्पेस पावर" मॉड्यूल में छात्रों को आम बोलचाल की भाषा में भारत की अंतरिक्ष शक्ति के बारे में समझाया गया है। विशेष मॉड्यूल में शुरुआत से लेकर अब तक भारत के स्पेस कार्यक्रमों की जानकारी दी गई है। स्पेस डे की थीम आर्यभट्ट से गगनयान तक को ध्यान में रखते हुए छात्रों को भारत की उपलब्धियों के बारे में बताया गया

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India's astronaut pool to have women, people from all walks

Source: The Indian Express, Dt. 24 Aug 2025

INDIA will create a pool of astronauts to take part in future human spaceflight missions, and it will not be restricted to Air Force personnel only. Importantly, this pool will include women astronauts, officials of Indian Space Research Organisation (ISRO) said.

Prime Minister Narendra Modi also announced this in his video address on the occasion of National Space Day on Saturday. He said India is preparing to set up a pool of astronauts for future missions and urged the youth to be part of this group.

"It has been decided that the astronaut pool will not be restricted to the Air Force alone. It will have people from all walks of life. Globally, if you see, it's not just researchers but also entrepreneurs who are travelling to space. The decision to include women in the growing astronaut pool has also been taken," a senior ISRO official said, on the condition of anonymity.

For the initial Gaganyaan flights, four Indian Air Force test pilots — Group Captains Shubhanshu Shukla, Prashanth Nair, Angad Pratap and Ajith Krishnan — received astronaut training in Russia and India.

Union Minister Jitendra Singh and ISRO Chairman V Narayanan at the unveiling of the first look of Bharatiya Antariksh Station on National Space Day, at Bharat Mandapam on Saturday.

"The first batch of astronauts had to be selected from the Air Force because we needed very experienced pilots. For the initial flights the vehicle is still under development and testing," the official said. The initiative is a step towards realising the promise made by PM Modi from the ramparts of the Red Fort in 2018, when he announced the country's first human spaceflight mission. "An Indian boy or girl will unfurl the Tricolour in space," the Prime Minister had said in his Independence Day speech.

On Saturday, in his video address, the PM said: "In my conversation with Group Captain Shubhanshu, I saw the boundless courage and infinite dreams of the youth of New Bharat. To take these dreams forward, we are also preparing an astronaut pool for Bharat. On this Space Day, I invite my young friends to join this astronaut pool and give wings to the dreams of Bharat."

Earlier, during interaction with Shukla after his return from the United States, the Prime Minister said India should have a ready pool of 40-50 astronauts. This pool is essential for India's vision of sustained human spaceflight missions. As per the current roadmap, India aims to send its own astronauts to space with its Gaganyaan mission by 2027, followed by the setting up of the Bharatiya Antariksh Station by 2035, and sending a manned mission to the Moon by 2040. The government has so far approved eight flights under the Gaganyaan mission — two crewed and six uncrewed. One of the six uncrewed missions will also carry the first module of the Bharatiya Antariksh Station.

"We have already reached the Moon and Mars. Now we must delve deeper into those regions of space where many vital mysteries for the future of humanity are concealed. Beyond galaxies lies our horizon," the Prime Minister said in his address. He also spoke about increasing the country's launch frequency with the help of private players. "At present, we witness about five to six major launches annually from Indian soil. I would like the private sector to take the lead so that in the next five years we reach a stage where we launch 50 rockets every year. One every week," the PM said. Over 300 startups have been set up in the space sector since it was opened in 2020.

https://indianexpress.com/article/india/indias-astronaut-pool-to-have-women-people-from-all-walks-10207666/

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Will launch over 100 satellites over next 15 yrs: ISRO

Source: The Indian Express, Dt. 24 Aug 2025

SIGNALLING A major surge in its activities, the Indian Space Research Organisation (ISRO) on Friday said it would be launching more than 100 satellites in the next 15 years to meet the country's needs for earth-observation data, and satellite-based communication and navigation.

This would be in addition to space exploration or science missions like those to the Moon, Mars or Venus, or the human spaceflight missions under the Gaganyaan programme.

"Over 100 satellite missions sounds like a lot, but it is only about seven to eight missions a year, up to 2040. This can easily be achieved, apart from our other missions like Chandrayaan or Gaganyaan," said Nilesh Desai, director of Ahmedabad-based Space Application Centre, at an event in New Delhi on Friday. Desai was presenting ISRO's roadmap for 2047.

Until now, ISRO has been doing just about five to six launches — all kinds of missions — in a year. The maximum launches it has managed in a year is nine, in 2016. But ISRO Chairman V Narayanan said the space agency was preparing to step up the gas.

"Space sector is undergoing a transformation. Our timelines must match the requirements of our country. Slowly but surely, these missions are going to bring great benefit to the country," he said.

Relying on private firms

ISRO is planning to move into the next gear, banking heavily on the promise shown by the private space companies, both on the application side as well as those building hardware. At least 350 private space companies are currently in operation, and many of them have been working on extremely innovative projects. Their success is essential for ISRO delivering on its 2047 roadmap.

Narayanan said the space sector in India needed to undergo rapid indigenisation to enable the transformation, and expressed confidence that the emerging private industry would make this happen.

"We send communication satellites, but some crucial parts are currently imported. Similarly, we have built a strong navigation system, but if we are still importing atomic clocks that are part of that system, we cannot be talking about it in very glowing terms. We have now initiated the indigenisation of atomic clocks, but the rate of production of these atomic clocks has to go up," he said. "The private industry has been showing immense promise, they are doing wonderful things. I am sure we will have a much higher degree of indigenisation in our missions very soon."

The 2047 roadmap for ISRO includes not just the Chandrayaan-4 and 5 missions, which have already been announced, but also 6, 7 and 8 before the crewed mission to Moon in 2040. Both Chandrayaan-4 and 5 are sample return missions, and are expected to happen in the 2027-28 timeline.

Chandrayaan-5 is a joint mission with Japanese space agency JAXA. ISRO did not mention the timelines for the follow-on Chandrayaan missions. The roadmap also includes Mars lander mission, but the timeline is not specified. India's first mission to Mars, Mangalyaan, was an Orbiter, and did not land.

Most of the 100-plus satellite launches that ISRO is planning in the next 15 years are going to be earth-observation satellites. About 80 of them would be meant only for land-based applications, while the others would enable ocean and atmospheric applications. ISRO is also planning 16

technology demonstration missions during this time, which will build and showcase its new and growing capabilities. Besides these, there are expected to be a number of communication and navigation satellite launches as well.

https://indianexpress.com/article/india/will-launch-over-100-satellites-over-next-15-yrs-isro-10205891/

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अंतरिक्ष के क्षेत्र में मुख्य खिलाड़ी के रूप में उभर रहा है भारत

Source: Dainik Jagran, Dt. 24 Aug 2025

अंतरिक्ष के क्षेत्र में प्रमुख खिलाड़ी के रूप में

उभरा है भारत

राकेट और अर्थ इमेजिंग से लेकर अंतरिक्ष यातायात प्रबंधन तक,भारतीय अंतरिक्ष वैश्विक अंतरिक्ष दौड़ में तेजी से आगे बढ़ रहा है। भारत ने 1975 में अपने पहले प्रक्षेपण के बाद से 80 से ज्यादा अंतरिक्ष यान प्रक्षेपित कर चुका है। आइए नजर डालते हैं भारत की खास उपलब्धियों पर....

भारतीय अंतरिक्ष स्टेशन का माडल● फाइल फोटो

भारत का अंतरिक्ष बेड़ा

भारत का अंतरिक्ष बेड़ा अत्याधुनिक तकनीक से सुसज्जित है। इसरो वर्तमान में इनसैट और जीसैट श्रृंखला के संचार उपग्रहों, भू-अवलोकन उपग्रहों और आइआरएनएसएस श्रृंखला के नेविगेशन उपग्रहों का संचालन कर रहा है। भारत के पास टीईएस और कार्टोसैट जैसे हाइब्रिड उपग्रहों का बेड़ा है, जो सैन्य और नागरिक दोनों तरह के उपयोग के लिए कार्य करते हैं। इसके अलावा, भारत का अपना नेविगेशन उपग्रह भी है, जो अमेरिकी जीपीएस पर निर्भर रहने के बजाय सटीक लोकेशन प्रदान करता है। एक समर्पित रक्षा उपग्रह जीसैट-7 भी है, जो सेना को सेवाएं दे रहा है।

रूसी रिकार्ड तोड़ दुनिया को चौंकाया

2017 में, भारत ने एक ही राकेट से 104 नैनो उपग्रहों को कक्षा में प्रक्षेपित कर नया विश्व रिकार्ड स्थापित किया। यह उपलब्धि न केवल रूस के रिकार्ड को तोड़ने में सफल रही, बल्कि भारत को उभरते निजी बाजार में एक अहम खिलाड़ी के रूप में भी स्थापित किया।

चंद्रमा पर पानी के सुबूत दिए

इसरो की सबसे बड़ी उपलब्धियों में से एक चंद्रयान का प्रक्षेपण है, जिसने चंद्रमा पर पानी के प्रमाण प्रदान किए। चंद्रयान-1 मिशन ने चंद्रमा पर पानी के अणुओं की मौजूदगी का पहला वैज्ञानिक प्रमाण दिया था, जिसके बाद 2009 में नासा ने भी इसकी पुष्टि की थी। इसके साथ ही, जीएसएलवी (एमके 3) के माध्यम से भारी पेलोड उपग्रहों के प्रक्षेपण में भी भारत ने महत्वपूर्ण कदम उठाए हैं, जिसमें एक स्वदेशी क्रायोजेनिक इंजन शामिल है।

निजी कंपनियों को भी चुनौती

भारत केवल देशों के साथ ही प्रतिस्पर्धा में नहीं है, बल्कि यह स्पेसएक्स और ब्लू ओरिजिन जैसी निजी कंपनियों को भी चुनौती दे रहा है। स्पेसएक्स ने दोबारा इस्तेमाल के योग्य प्रक्षेपण यान के क्षेत्र में अपनी पहचान बनाई है। इसरो ने हाल ही में इस क्षेत्र में प्रवेश की घोषणा की है। इससे भारत को बढ़ते वाणिज्यिक बाजार में एक प्रमुख खिलाड़ी के रूप में अपनी स्थिति मजबूत करने में मदद मिलेगी।

किफायती मिशनों ने दुनिया में बजाया डंका

भारत ने अपनी कम लागत और स्थानीय संसाधनों के उपयोग के कारण विश्व स्तर पर कम लागत वाले मिशनों के लिए ख्याति प्राप्त की है। इसकी वजह से भारत को अन्य देशों की तुलना में बढ़त मिलती है। किसी दूसरे ग्रह पर अंतरिक्ष यान भेजने की लागत बहुत ज्यादा होती है और सरकारी एजेंसियों के विपरीत, निजी कंपनियों को अपने निवेश पर लाभ मिलना जरूरी होता है। इसरो द्वारा एक ही स्थान पर बड़ी संख्या में उपग्रह प्रक्षेपित करने से, इसने वैज्ञानिक और तकनीकी प्रगति पर फिर से ध्यान केंद्रित किया है। भारत ने 7 .5 करोड़ डालर की लागत से मंगल आर्बिटर मिशन (एमओएम) भी पूरा किया, जो नासा के मावेन मंगल मिशन के बजट का केवल दसवां हिस्सा था।

आगामी मिशन

आगामी मिशनों की बात करें तो 2027 में प्रस्तावित गगनयान (भारत का पहला मानवयुक्त अंतरिक्ष यान) और एक राष्ट्रीय अंतरिक्ष स्टेशन विकसित करने की योजना के साथ, भारत की आकांक्षाएं अब पृथ्वी की कक्षा से आगे बढ़ रही हैं। उपग्रह प्रौद्योगिकी और अंतरग्रहीय अन्वेषण में इसरो के निरंतर नवाचार भारत को वैश्विक अंतरिक्ष अन्वेषण में एक अहम भागीदार बना रहे हैं।

जागरण रिसर्च

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ISRO unveils model of Bhartiya Antariksh Station

Source: The Pioneer, Dt. 23 Aug 2025

ISRO on Friday unveiled a model of the Bharatiya Antariksh Station (BAS) module during the two-day National Space Day celebrations.
India plans to launch the first module of the BAS, its own home-built space station, by 2028, marking its entry into the group of a handful of nations that operate orbital laboratories.

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चंद्रयान-2 के डेटा से चांद की संरचना की मैपिंग

Source: Dainik Jagran, Dt. 24 Aug 2025

मुंबई, प्रेट्र : भारतीय प्रौद्योगिकी संस्थान (आइआइटी) - बांबे के छात्रों ने चंद्रयान-2 मिशन से एकत्र किए गए डाटा का उपयोग कर चंद्रमा की सतह की रासायनिक संरचना की मैपिंग की है। भारतीय अंतरिक्ष अनुसंधान संगठन (इसरो) के यूआर. राव सेटेलाइट सेंटर द्वारा 'इंटर-आइआइटी टेक मीट' के दौरान दिए गए चैलेंज के तहत छात्रों ने प्रतिभा दिखाई।

चंद्रमा पर वायुमंडल न होने की वजह से वह लगातार सूर्य से आने वाली तेज एक्स-रे किरणों की चपेट में आता रहता है। जब ये किरणें चंद्रमा की सतह से टकराती हैं, तो वहां मौजूद तत्व अनूठा प्रकाश उत्सर्जित करते हैं। इसी रोशनी से वैज्ञानिक पता लगाते हैं कि चांद किन तत्वों से बना है। चंद्रयान-2 के लार्ज एरिया साफ्ट एक्स-रे स्पेक्ट्रोमीटर (सीएलएएसएस) ने 100 किमी की ऊंचाई से पूरे चंद्रमा की सतह को स्कैन कर डाटा इकट्ठा किया है। हालांकि, इस डाटा के बड़े हिस्से का अब तक वैज्ञानिक रूप से पूरी तरह इस्तेमाल नहीं हो सका। आइआइटी बांबे के छात्रों ने इसी डाटा का विश्लेषण किया है।

- आइआइटी बांबे के छात्रों ने टेक मीट में दिखाई प्रतिभा
- चंद्रयान-2 के साफ्ट एक्स-रे स्पेक्ट्रोमीटर ने जुटाया है डाटा
- छात्र रवि कुमार ने कहा-यह एक रोमांचक अनुभव था

आइआइटी की विजेता टीम के छात्र रवि कुमार ने कहा, चंद्रयान मिशन के डाटा के साथ काम करना रोमांचक अनुभव था। अनुसंधान का मार्गदर्शन करने वाले आइआइटी बांबे के संकाय सदस्य प्रोफेसर वरुण भालेराव ने कहा, हमारे छात्रों ने उन्नत खगोल भौतिकी और डाटा विश्लेषण तकनीकों का प्रयोग किया।

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ISRO is building its heaviest rocket ever: A look at the space agency's launch vehicles

Source: The Indian Express, Dt. 24 Aug 2025

Indian Space Research Organisation (ISRO) Chairman V Narayanan said on Friday that the space agency was in the process of building its heaviest rocket ever, and had named it Lunar Module Launch Vehicle (LMLV).

He also said the LMLV would be ready by 2035, and would be used for the lunar missions, including the first human mission to the Moon, planned by 2040.

The new rocket would be capable of carrying about 27 tonnes to the Moon and 80 tonnes to low Earth orbits, which are between 200 and 2,000 km from the planet's surface.

Here is a brief history of ISRO's launch vehicles.

The origin

India had been thinking of rockets even before ISRO was established. On November 21, 1963, it launched the US Nike Apache 'sounding rocket' from Thumba, near Thiruvananthapuram. The rocket was taken to the launch site on a bullock cart. Sounding rockets are suborbital rockets that

carry experiments to the upper atmosphere of the Earth. They aren't capable of exiting the planet's gravity or reaching into space.

The first Indian launch vehicle to arrive there was the SLV-3 in 1980. The mission was led by A P J Abdul Kalam, who had joined ISRO in 1969, and was responsible for designing, developing and launching the vehicle. But the success didn't come instantly, as the first attempt to send the SLV-3 into space on August 10, 1979, failed.

Scientist Ramabhadran Aravamudan in his book, ISRO: A Personal History, writes about the incident as follows: "The burning of the first stage seemed normal. I was watching Kalam for some sign. Had the rocket performed well? After some time, I saw a blank and fixed expression on his face, followed by disappointment. He turned around and made a thumbs down gesture. Something had gone wrong."

SLV-3 had gone out of control and splashed into the Bay of Bengal at a distance of 560 km from the coast, about five minutes after take-off from the Sriharikota launch pad.

Kalam and his team learnt quickly from the mistakes. The second attempt for the launch was scheduled for just a year later, on July 18, 1980. There was some tension because Sanjay Gandhi, the Prime Minister's son, had died in a plane crash about three weeks ago.

"Delhi was in chaos as Indira Gandhi tried to come to terms with the loss. In Trivandrum and SHAR this had a trickledown effect, but we were determined to go ahead with our launch," Ramabhadran wrote. SLV-3 took off without any glitches, and placed its payload, Rohini 1, a 40 kg experimental satellite, in space. This made India the sixth member of the exclusive club of space-faring nations, and boosted ISRO's morale to new heights.

The rise of PSLV

SLV-3's payload capability wasn't significant. But it provided a learning platform to ISRO, and led to the development of the Augmented Satellite Launch Vehicle (ASLV). This was essentially the SLV-3 rocket, but with additional strap-on boosters, which enabled it to carry a payload of more than 100 kg.

However, ASLV didn't prove very successful. Its first two launches ended in failure and by the time its first glitch-free take-off came in 1992, a new generation of launch vehicles had made its entry. It was the Polar Satellite Launch Vehicle (PSLV).

PSLV's development started in 1982, and its maiden successful launch took place in October 1994. Most significantly, it marked India's entry into the Big Rockets league, as it could carry a payload of up to 1,000 kg.

In the years that followed, PSLV emerged as one of the most reliable and versatile workhorse launch vehicles, sending numerous Indian and foreign customer satellites into space. Some of India's most ambitious space missions have been launched using this rocket — Chandrayaan-1 rode a PSLV rocket in 2008, as did Mangalyaan, the Mars Orbiter mission, in 2013. PSLV also helped India enter the arena of satellite navigation, which is considered crucial for both civilian and defence applications.

"Today, PSLV is available in three configurations: the generic PSLV with six strap-ons, the core alone (PSLV-CA) configuration with no strap-ons and the most powerful one designated as PSLV-XL, with extended strapons," scientist N Narayanamoorthy, who was associated with the PSLV project from the beginning, wrote in From Fishing Hamlet to Red Planet: India's Space Journey.

The latest generation of vehicles

The next and latest class of rockets is the Geosynchronous Satellite Launch Vehicle (GSLV). The new launch vehicle primarily aimed to solve two of the biggest limitations of PSLV: it can deliver a payload of about 1,750 kg to a lower Earth orbit, up to an altitude of 600 km from the Earth's surface; and it can go a few hundred kilometres higher in Geostationary Transfer Orbit (GTO), though only with a reduced payload.

Unlike their predecessor vehicles, GSLVs use cryogenic engines — they consist of liquid hydrogen and liquid oxygen — that provide far greater thrust than the engines used in the older launch vehicles. ISRO developed these cryogenic engines indigenously after the US refused to transfer the technology to India in the 1990s.

The big success came in December 2014, with the experimental flight of the third generation (Mk-III) GSLV, now known as Launch Vehicle Mark-3, containing an indigenous cryogenic engine. The rocket can put a 4,000 kg payload into geostationary orbits that are over 30,000 km from Earth — it is ISRO's heaviest launch vehicle right now. LVM-3's first successful mission was in 2017, when it carried the GSAT-19 satellite, a communication spacecraft, into space.

Subsequently, the same launch vehicle put the Chandrayaan-2, weighing 3,850 kg, outside the Earth's atmosphere in 2019, and took Chandrayaan-3 into space in 2023.

https://indianexpress.com/article/explained/explained-sci-tech/isro-heaviest-rocket-10207084/

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प्रधानमंत्री के प्रधान सचिव पीके मिश्रा ने कहा 'इसरो अंतरिक्ष पर ध्यान केन्द्रित करने के लिए स्वतंत्र'

Source: Jansatta, Dt. 23 Aug 2025

जनसत्ता ब्यूरो
नई दिल्ली, 22 अगस्त।

प्रधानमंत्री के प्रधान सचिव पी के मिश्रा ने शुक्रवार को कहा कि सरकार द्वारा शुरू किए गए अंतरिक्ष सुधारों ने इस क्षेत्र के भविष्य को विस्तार योग्य दिया है तथा इसरो अब अग्रणी प्रौद्योगिकियों और 'डीप स्पेस' पर ध्यान केंद्रित करने के लिए स्वतंत्र है और इसके अनुप्रयोगों को निजी क्षेत्र के लिए छोड़ दिया गया है।

राष्ट्रीय अंतरिक्ष दिवस की पूर्व संध्या पर इसरो द्वारा आयोजित 'नेशनल मीट-2' को संबोधित करते हुए मिश्रा ने अंतरिक्ष वैज्ञानिकों से कृत्रिम बुद्धिमत्ता, क्वांटम कंप्यूटिंग और बिग डेटा एनालिटिक्स जैसी उभरती प्रौद्योगिकियों को भविष्य के उपग्रहों और जमीनी प्रणालियों में एकीकृत करने को कहा। उन्होंने कहा, 'अंतरिक्ष क्षेत्र में सुधारों ने इस क्षेत्र के भविष्य को विस्तार योग्य, नवोन्मेषी और लचीला बना दिया है।'

मिश्रा ने कहा, 'इसरो अब अग्रणी तकनीकों और 'डीप स्पेस' पर ध्यान केंद्रित करने के लिए स्वतंत्र है, और इसका अधिकांश अनुप्रयोग विकासशील निजी क्षेत्र द्वारा किया जाएगा।' 'डीप स्पेस' से तात्पर्य ब्रह्मांड के ऐसे क्षेत्र से है जो पृथ्वी के वायुमंडल से परे और यहां तक कि पृथ्वी-चंद्रमा प्रणाली से भी परे है। मिश्रा ने वैश्विक साझेदारी का विस्तार करने का भी सुझाव दिया, जैसा कि हाल ही में नासा-इसरो सिंथेटिक अपर्चर रडार (निसार) उपग्रह और प्रस्तावित जी-20 जलवायु उपग्रह के प्रक्षेपण से स्पष्ट होता है।

शुभांशु ने राष्ट्रपति मुर्मू से मुलाकात की

अंतरिक्ष यात्री शुभांशु शुक्ला ने शुक्रवार को राष्ट्रपति भवन में राष्ट्रपति द्रौपदी मुर्मू से मुलाकात की और अंतरिक्ष में अपने अनुभव साझा किए। यह जानकारी राष्ट्रपति के कार्यालय ने दी। शुक्ला अंतरराष्ट्रीय अंतरिक्ष स्टेशन (आइएसएस) की यात्रा करने वाले पहले भारतीय अंतरिक्ष यात्री हैं।

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Space Mission: Goals must align with India's needs

Source: The Tribune, Dt. 25 Aug 2025

THE ambitious roadmap for India's space programme outlined on National Space Day is in line with the mission to think big and expand the boundaries of technological prowess. The endless universe tells us that no frontier is the final frontier, the Prime Minister said, highlighting the commitment to stay the course on robust space exploration. India plans to launch 119 satellites in the next 15 years and expand its ground station networks. In the works are more unmanned Chandrayaan missions before an Indian sets foot on the moon by 2040. A 10-tonne module of the Bharatiya Antariksh Station is slated for launch in 2028. The entire space station is expected to be in place by 2035. The big techno-scientific projects are markers of India's growing stature as a global space power.

In light of the fast-changing global events and weapon advancements, national security considerations demand focussed attention. The challenge is to strike the right balance in making the optimum use of the space programme — both for developmental goals and leveraging the new capabilities for security objectives. It calls for pragmatism and careful assessment of India's needs. On the human spaceflight goals, an insightful perspective comes from Gaganyaan astronauts that the journey ahead must be approached with humility. Stepping beyond the planet, according to them, offers not just scientific breakthroughs but also a renewed sense of responsibility and unity. More important, for anything and everything that India does in space, there has to be some usefulness back on earth.

In Modi's call to prepare for deep space exploration, a paradigm shift has been the entry of the private sector in the space programme ecosystem. Much depends on how its role as a capable partner is harnessed to shoulder the weight of India's ambitious projects.

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The Tribune
The Statesman
पंजाब केसरी जनसत्ता
The Hindu
The Economic Times
Press Information Bureau
The Indian Express
The Times of India
Hindustan Times
नवभारत टाइम्स
दैनिक जागरण
The Asian Age
The Pioneer