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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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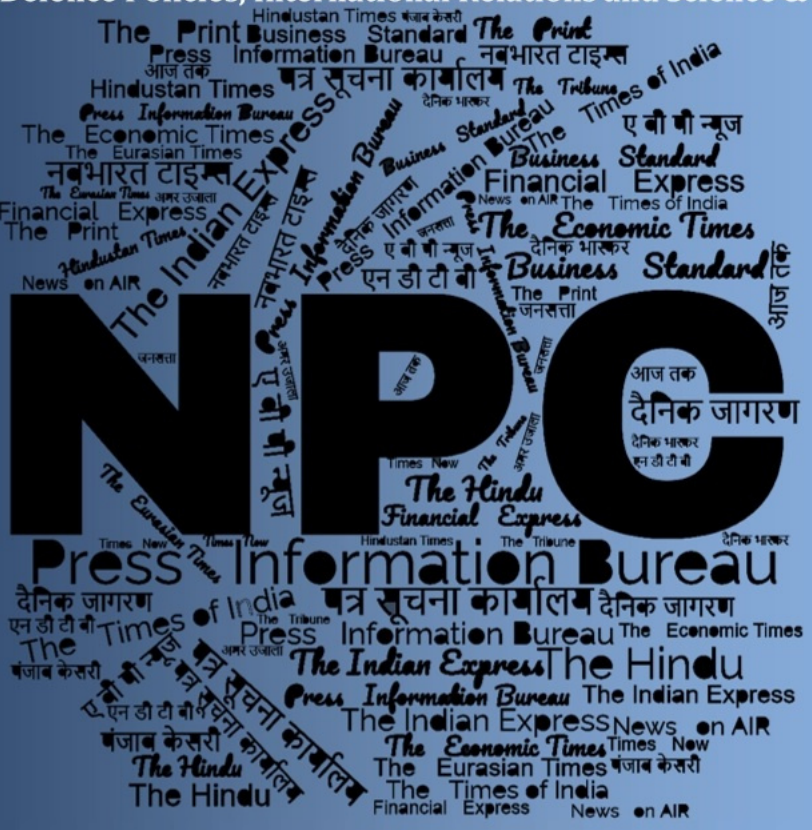

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CONTENTS

Defence News

Defence Secretary attends closing ceremony of India-Mongolia Joint Military Exercise Nomadic Elephant

Source: Press Information Bureau, Dt. 13 Jun 2025

The 17th edition of the India-Mongolia Joint Military Exercise NOMADIC ELEPHANT concluded today at Ulaanbaatar, Mongolia. Defence Secretary, Shri Rajesh Kumar Singh along with Lieutenant General Pushpendra Singh, Director General Operational Logistics and Strategic Movement, attended the closing ceremony.

The Indian Army contingent, comprising 45 personnel predominantly from a battalion of the ARUNACHAL SCOUTS, actively participated in the two-week-long exercise. The focus of the joint training was to enhance interoperability between the Indian Army and the Mongolian Armed Forces while operating as a combined task force in semi-conventional scenarios in semi-urban and mountainous terrain under United Nations mandate.

Speaking at the Closing Ceremony, the Defence Secretary commended the professionalism, dedication and conduct of the Indian soldiers during Exercise NOMADIC ELEPHANT. He said that this exercise is a testament to the enduring bond of friendship, mutual trust and shared cultural linkages between India and Mongolia. It served as a platform for meaningful military cooperation and demonstrate India’s unwavering commitment to regional peace and stability. He further added that the Indian Army’s contribution to such joint initiatives not only enhances operational readiness but also reinforces India's role as a responsible stakeholder in global peacekeeping efforts.

The Defence Secretary is also scheduled to attend the Opening Ceremony of the Multinational Joint Military Exercise KHAAN QUEST 2025 at the same location tomorrow, in which Indian Army

contingent is also one of the participants. Exercise KHAAN QUEST 2025 will be conducted from 14th to 28th June 2025.

The conduct of Exercises NOMADIC ELEPHANT and KHAAN QUEST marks a significant milestone in India's expanding defence diplomacy and underscores the strategic importance of its partnership with Mongolia.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=2136156

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India, France agree to intensify defence, space, n-cooperation

Source: The Indian Express, Dt. 14 Jun 2025

External Affairs Minister S Jaishankar on Friday held wide-ranging discussions with French counterpart Jean-Noël Barrot on a range of issues and the two sides agreed to intensify bilateral cooperation in areas like defence, security, space and civilian-nuclear collaboration. Jaishankar also expressed India's "deep appreciation" to France for strong condemnation of the cross-border terrorist attack in Pahalgam and thanked Paris for its "steadfast support for India's right to defend itself against terrorism".

Addressing a joint press conference in Marseille after the meeting, he underlined that there has been a "very high degree of trust" between India and France over the years as one looks at their relationship and cooperation. He said the two sides also discussed global and regional issues like the situation in the Indian subcontinent, the Ukraine conflict, the Middle East and the Indo-Pacific.

External Affairs Minister S Jaishankar with French Foreign Minister Jean-Noel Barrot in Marseille, France

“It has always been our position that this is not an era where differences should be settled through war. We believe that dialogue and diplomacy is the answer… No solutions are going to come out of the battlefield has always been our position,” he said.

Jaishankar said the two sides held “wide-ranging discussions, which covered defence, civilian nuclear energy, space, counterterrorism, people-to-people relations, innovation, AI, technology”.

“And, we spent a little while discussing how between education, research, business and mobility, how we can really add new ways of adding more substance to our relationship,” he said.

“Defence, security, space, civilian nuclear cooperation, I think we agreed to intensify all of these through very concrete measures and projects in the time to come,” he added. Jaishankar said his conversations with Barrot also covered the IMEEC, and “our triangular development cooperation, how do we take forward some of our trilateral mechanisms, we have one with the UAE, and with Australia”.

https://indianexpress.com/article/india/india-france-agree-to-intensify-defence-space-n-cooperation-10065736/

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Amid bid to rebuild China ties, Rajnath Singh to attend SCO meet

Source: The Times of India, Dt. 15 Jun 2025

Defence minister Rajnath Singh is set to visit China later this month for Shanghai Cooperation Organisation defence ministers' meet, which comes amid efforts by New Delhi and Beijing to rebuild and stabilize bilateral ties, though de-escalation between the rival armies is yet to take place along the Line of Actual Control.

Singh is likely to have a bilateral meeting with his Chinese counterpart Admiral Dong Jun on the sidelines of the SCO meet on June 24-25, in what will be his first visit as defence minister to China. "The final details are still being worked out," an official said on Saturday.

Pakistan defence minister Khawaja Asif is also slated to attend the SCO meet, which is taking place soon after intense cross-border military hostilities between India and Pakistan from May 7 to 10.

Both India and Pakistan in 2017 became full members of the SCO, which also includes Russia, China, Kazakhstan, Kyrgyz Republic, Tajikistan, Uzbekistan, Iran and Belarus.

Along the 3,488-km LAC with China, there are as yet no signs of de-escalation and de-induction of troops after disengagement at the two remaining face-off sites at Depsang and Demchok in eastern Ladakh last Oct, which has led to restoration of patrolling by the rival soldiers and grazing by herders as well as reduced the risk of any inadvertent escalation.

China has continued to strengthen its military positions & infrastructure build-up all along LAC, with PLA troops continuing to be forward deployed with heavy weapon systems in large numbers, as earlier reported by TOI.

Moreover, the deep military collusiveness between Pakistan and China was quite evident during Operation Sindoor.

Pakistan used several Chinese weapons and platforms, ranging from J-10 fighters firing the PL-15 beyond visual range air-to-air missiles to HQ-9 air defence missile batteries, during the hostilities with India. Pakistan is also set to acquire at least 40 J-35A fifth-generation stealth jets and the HQ-19 long-range air defence missile systems from China.

https://timesofindia.indiatimes.com/india/amid-bid-to-rebuild-china-ties-rajnath-singh-to-attend-sco-meet/articleshow/121854871.cms

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The rearming of Europe: India must tap opportunities for exports and joint research

-by Sujan R. Chinoy, Director General of the Manohar Parrikar Institute for Defence Studies and Analyses

Source: The Indian Express, Dt. 16 Jun 2025

Prime minister Narendra Modi's visit this week to Cyprus and Croatia, members of the European Union (EU), was preceded by External Affairs Minister S Jaishankar's visit to France, EU and Belgium last week and to the Netherlands, Denmark and Germany earlier in May. Bilateral relations are rapidly evolving, anchored in the India-EU strategic partnership.

In February, during the visit of Ursula von der Leyen, president of the European Commission, and the EU College of Commissioners to India, the two sides had welcomed growing defence cooperation, including joint exercises and collaboration between the Indian Navy and EU maritime security entities. The two sides had also committed to exploring a security and defence partnership. In this context, one must closely examine the opportunities for deepening the partnership provided by the Joint White Paper (WP) on European Defence — Readiness 2030, issued by the European Commission in March.

The new policy approach outlined by the WP has undoubtedly been occasioned by the protracted war in Ukraine and recent stresses in the transatlantic partnership with the US. The main thrust of the WP is to support member states in achieving full defence readiness by 2030. The target is to mobilise additional defence expenditure of up to 1.5 per cent of the GDP. Based on projections of gradual progression, defence investment could reach at least €800 billion over the next four years.

The scope of the WP points to opportunities for Indian defence industries to acquire or establish start-ups and small and medium enterprises (SMEs) in Europe. Both Europe and India have recently been tested for their defence preparedness. In the short term, the emphasis in Europe is on replenishing stocks of ammunition, weapons, and military equipment. This may provide an opening for India to export ammunition to Europe.

The Indian defence sector has received a boost in the aftermath of military tensions with China and, more recently, with Pakistan. India's defence exports have surged to a record high of approximately Rs 23,622 crore (US$2.76 billion) in the financial year 2024–25. A foundation has been laid for a higher quantum of exports in the future.

In the wake of the high-level visits this year, India should endeavour to explore sales of Advanced Towed Artillery Guns (ATAGs), the Pinaka Multi-Barrel Rocket Launcher, air defence missiles, and radars that meet NATO standards. The focus in the WP on critical and foundational technologies — such as artificial intelligence, quantum, biotechnologies, and hypersonic technologies — and their classification as dual-use with both economic and military implications offers India a chance to collaborate with EU member states.

The strong undercurrent of commitment in the WP to enhancing Ukraine's defence and security capacities is noteworthy. The new policy is oriented toward sharing the EU's military mobility corridors, space assets, and services with Ukraine. The key, therefore, lies in Indian companies being part of the landscape in the EU, and perhaps in Ukraine as well, at an early stage in the process of internal integration and harmonisation of the regulatory framework. India should explore opportunities for acquisitions and joint research in defence technologies. As such, the EU has welcomed India's interest in joining projects under its Permanent Structured Cooperation (PESCO) and in engaging in negotiations for a Security of Information Agreement (SoIA).

India should closely study the evolving EU model of defence preparedness and adopt best practices to refine its own roadmap toward atmanirbharta in aerial mobility — particularly the development of domestic civil transport aircraft manufacturing and maintenance, repair, and overhaul hubs. The EU's defence omnibus package offers India a chance to collaborate with the EU on cross-certification of defence products and mutual recognition of certification, creating the basis for a future market for India's military and dual-use products.

The changes in the EU may also provide job opportunities for Indian skilled professionals to work in the defence industrial complex across the EU. It is vital for India to engage each of the EU members on migration and mobility issues in the context of the ongoing FTA negotiations. The EU's harmonisation of rules and procedures for defence procurement could lead to some changes in export regulations. Major European producers of defence equipment could find their capacities committed to national needs or to the ReArm Europe Plan. India would have to examine the impact, if any, on its supply chains originating in Europe.

India could explore the possibility of joining the EU Defence Innovation Scheme (EUDIS), drawing from its experience in initiatives such as the INDUS-X with the US — though this may require some special arrangements, since entities participating in EUDIS projects are generally required to

be located in the EU or Norway with local legal identity and control. Further, with the emphasis on infrastructure in the WP, Indian engineering, procurement, and construction companies should explore the potential for securing contracts for the expansion of EU multimodal corridors, including ports and terminals.

The emergence of the EU defence union will mark a scaling up of all existing European defence and security structures. The rapid rearmament of Europe is seen as a bulwark against Russia, reasserting Europe's strategic autonomy in securing itself as well as Ukraine, and strengthening the EU's defence contributions to the still valid transatlantic partnership. As an aspiring global power and strategically autonomous pole, India should invest strongly in the partnership with the EU.

https://indianexpress.com/article/opinion/columns/india-eu-partnership-turbulence-stabilising-force-10069329/

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Rafale maker junks Pak claim of downing 3 jets

Source: The Tribune, Dt. 15 Jun 2025

Dassault Aviation CEO Eric Trappier has rubbished Pakistan's claim of having downed three of the Indian Air Force Rafale jets, calling it "inaccurate". The remarks by the top official of the jet manufacturer came in an interview to a European publication, ahead of the Paris Air Show (June 16-22). Trappier was referring to the recent skirmishes between India and Pakistan (May 7-10).

Asked whether India's loss of at least one Rafale jet had raised questions in the defence circles, Trappier said: "The Indians have not communicated, so we do not know exactly what happened." "What we already know is that what the Pakistanis are saying (downing of three Rafale jets) is inaccurate," he added.

"When the truth comes out, some people might be surprised," he said, adding "the success of the combat mission is not having zero losses, it's about having achieved the objectives".

https://www.tribuneindia.com/news/india/rafale-maker-junks-pak-claim-of-downing-3-jets/

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Op Sindoor demonstrated IAF's ability to deliver precise strikes, says IAF Chief AP Singh

Source: The Tribune, Dt. 15 Jun 2025

During 'Operation Sindoor', the Indian Air Force (IAF) demonstrated its capability to deliver precise and decisive blows to the enemy, IAF Chief Air Chief Marshal AP Singh said on Saturday. He was addressing the Combined Graduation Parade (CGP) at the Air Force Academy (AFA), Dundigal, Hyderabad, on Saturday. A total of 254 flight cadets graduated on Saturday.

The Air Chief Marshal said the IAF had been and would always remain the first responder. "In the future, two things are certain: fast-evolving character of warfare and the increased relevance of the aerospace power," he added. "The IAF must remain ready and prepared. The battlefield is going to become more and more complex and you will need to continuously train and retrain to succeed in future," said the IAF chief.

He further highlighted that the Indian Air Force was evolving into an aerospace force. Many of you cadets would lead the nation's foray into space, he said. Operation Sindoor has showcased exceptional coordination, synergy and integration within the armed forces. You must keep furthering the spirit of jointness as you grow in service, the IAF Chief said.

At the passing-out ceremony, nine officers from the Navy, seven officers from the Indian Coast Guard and one trainee from Vietnam, were also awarded 'Wings' on successful completion of flying training. The event also included thrilling displays by the Akash Ganga team, the Air Warrior Drill Team and synchronised aerobatics by the Suryakiran aerobatic team.

The graduation parade was interspersed with well-coordinated and synchronized fly-pasts by trainer aircraft that included the Pilatus PC-7 MkII, Hawk, Kiran Mk-1 and Chetak. Flying Officer Rohan Krishnamurti from the Flying branch was awarded the President's Plaque and the Chief of the Air Staff Sword of Honour for standing first in the overall order of merit in the Pilots' course.

Flying Officer Nishtha Vaid was awarded the President's Plaque for being first in the overall order of merit in the ground duty branches. The parade culminated with the newly commissioned officers marching out in two columns to the resonant notes of martial marching tunes.

https://www.tribuneindia.com/news/india/op-sindoor-demonstrated-iafs-ability-to-deliver-precise-strikes-says-iaf-chief-ap-singh/

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भारत को एफ-35 बेचना चाहते हैं डोनाल्ड ट्रंप

Source: Punjab Kesari, Dt. 16 Jun 2025

नई दिल्ली, (पंजाब केसरी): डोनाल्ड ट्रंप ने अपने दूसरे कार्यकाल की शुरुआत करते ही भारत को अपना एफ-35 एयरक्राफ्ट बेचने की पेशकश कर दी थी। एफ-35 पांचवीं पीढ़ी का अमेरिका का सबसे आधुनिक लड़ाकू विमान है, जो केवल चुनिंदा या फिर कहें कि अमेरिका के करीबी देशों के पास ही मौजूद हैं। इन देशों में ब्रिटेन, इजराइल, जापान और ऑस्ट्रेलिया शामिल हैं। अगर भारत इस एयरक्राफ्ट को खरीदने के लिए तैयार हो जाता है, तो भारत भी उन चुनिंदा देशों की लिस्ट में शामिल हो जाएगा। हालांकि भारत और अमेरिका के बीच एफ-35 की खरीद के लिए अब तक कोई औपचारिक समझौता नहीं हुआ है। एफ-35 पांचवीं पीढ़ी का लड़ाकू विमान है। ये सिंगल सीट, सिंगल-इंजन स्टील्थ मल्टीरोल कॉम्बैट एयरक्राफ्ट है, जो हवाई हमले, उड़ने में उत्कृष्ठ, इलेक्ट्रॉनिक वारफेयर और इंटेलीजेंस जुटाने वाले मिशन को सफलतापूर्वक पूरा करने के लिए डिजाइन किया गया है। इसके तीन वैरिएंट हैं। पहला वैरिएंट एफ-35ए है, जो कन्वेंशनल टेकऑफ और लैंडिंग के लिए डिजाइन किया गया है। दूसरा वैरिएंट एफ-35बी है, जो शॉर्ट टेकऑफ और वर्टिकल लैंडिंग के लिए बना है। वहीं तीसरा वैरिएंट एफ-35सी कैरियर बेस्ड ऑपरेशन के लिए डिजाइन है। एफ-35 को इस तरह से डिजाइन किया गया है कि यह रडार को आसानी से चकमा दे पाता है। वहीं इसमें सेंसर फ्यूजन टेक्नोलॉजी है और यह रियल टाइम में दूसरे प्लेटफॉर्म के साथ कम्युनिकेशन स्थापित कर सकता है। यही वजह है कि यह पुरानी पीढ़ी के लड़ाकू विमानों से काफी अलग है। इस एयरक्राफ्ट में बीवीआर हथियार लगे हैं और एमबीडीए मीटियॉर जैसी मिसाइलें लक्ष्य को नग्न आंखों से दिखे बिना ही भेद सकती हैं। जेट में लगे रडार, इंफ्रारेड सिस्टम और एक्सटर्नल सोर्स से पायलट को काफी आसानी होती है। इसमें हेलमेट माउंटेज डिस्प्ले सिस्टम है, जो काफी एडवांस माना जाता है।

एफ-35 वर्टिकल लैंडिंग और टेकऑफ कर सकता है। यह एक ही समय में सेना की तीनों इकाइयों के साथ इन्फॉर्मेशन साझा कर सकता है। बता दें कि इसके पहले तक भारत एफ-35 खरीदने के लिए अधिकृत देशों की लिस्ट में नहीं था हालांकि डोनाल्ड ट्रंप का फोकस है कि वह भारत के साथ ज्यादा से ज्यादा बड़ी डिफेंस डील कर सकें

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ऑपरेशन सिन्दूर वायुसेना का जाबांज पराक्रम: एयर चीफ मार्शल

Source: Punjab Kesari, Dt. 15 Jun 2025

पंजाब केसरी/हैदराबाद

वायुसेना प्रमुख एयर चीफ मार्शल ए पी सिंह ने शनिवार को कहा कि पहलगाम आतंकवादी हमले के बाद शुरू किया गया 'ऑपरेशन सिंदूर' भारतीय वायुसेना के अद्वितीय पराक्रम का शानदार उदाहरण है। एयर चीफ मार्शल ने यह भी कहा कि इस अभियान ने दुश्मन पर त्वरित, सटीक और निर्णायक प्रहार करने की भारतीय वायुसेना की क्षमता को प्रदर्शित किया। यहां डुंडीगल स्थित वायुसेना अकादमी में संयुक्त स्नातक परेड (सीजीपी) को संबोधित करते हुए सिंह ने कहा कि 'ऑपरेशन सिंदूर' ने सशस्त्र बलों के बीच असाधारण समन्वय और एकीकरण को प्रदर्शित किया है। उन्होंने युवा अधिकारियों से आह्वान किया कि वे सेवा में आगे बढ़ने के साथ-साथ एकजुटता की भावना को आगे बढ़ाएं। वायुसेना प्रमुख ने कहा, ''ऑपरेशन सिंदूर भारतीय वायुसेना के अद्वितीय पराक्रम का एक शानदार उदाहरण है जिसमें हमने दुश्मन पर त्वरित, सटीक और निर्णायक प्रहार करने की अपनी क्षमता का प्रदर्शन किया। आप वायुसेना का भविष्य हैं तथा आपको यह समझना होगा कि वायुसेना हमेशा से ही सबसे पहला कदम उठाने वाली रही है और रहेगी।'' उन्होंने कहा, ''भारत के प्रत्येक नागरिक द्वारा भारतीय वायुसेना पर जताए गए विश्वास पर खरा उतरना हमारी सामूहिक जिम्मेदारी है और हमें इसके लिए तैयार रहना चाहिए।'' वायुसेना प्रमुख ने कहा कि युद्धक्षेत्र दिन-प्रतिदिन जटिल होता जा रहा है तथा युवा अधिकारियों को भविष्य के संघर्षों में सफल होने के लिए लगातार ''प्रशिक्षण और पुन: प्रशिक्षण'' की आवश्यकता होगी। उन्होंने कहा कि भारतीय वायुसेना तेजी से एक एयरोस्पेस बल के रूप में विकसित हो रही है तथा कई युवा अधिकारी अंतरिक्ष में राष्ट्र की अगुवाई करेंगे।

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Science & Technology News

Minister Dr. Jitendra Singh announces policy reforms to enhance the 'Ease of Innovation', 'Ease of Research' and 'Ease of Science'

Source: Press Information Bureau, Dt. 15 Jun 2025

In a major policy shift aimed at streamlining the research environment in India, Union Minister of State (Independent Charge) for Science and Technology; Earth Sciences and Minister of State for PMO, Department of Atomic Energy, Department of Space, Personnel, Public Grievances and Pensions, Dr. Jitendra Singh on Sunday announced a set of policy reforms to enhance the "Ease of Innovation" and “Ease of Doing Research”, providing long-awaited relief to innovators, researchers scholars, scientists and institutions across the country.

Addressing a press conference at The National Media Centre in the national capital, Dr. Jitendra Singh unveiled decisions that will enable academic and research institutions to bypass some of the most cited hurdles in their day-to-day functioning—particularly around procurement delays and financial ceilings. Such pathbreaking decisions could not have been possible without the personal indulgence and support of Prime Minister Sh Narendra Modi, he added.

The announcement follows extensive consultations led by the Principal Scientific Adviser’s office, drawing insights from 13 IITs and multiple research bodies across India. One of the most consequential decisions announced is the delegation of procurement powers to institutional heads. Directors of scientific organisations and Vice Chancellors of universities will now be empowered to carry out non-GeM (Government e-Marketplace) purchases for specialized research equipment

and materials—a departure from the existing rules which mandated GeM procurement even when suitable items were unavailable.

“We have tried to do away with red tape-ism,” said Dr. Jitendra Singh. “This is a move that places trust in the science leaders of this country. The message from the Modi Government is clear—we trust you, we value you and we are committed to you.”

The government has also revised key financial thresholds under the General Financial Rules (GFR). The ceiling for direct purchases has been doubled from ₹1 lakh to ₹2 lakh, while the range for purchases through departmental committees has been raised from ₹1-10 lakh to ₹2-25 lakh. Similarly, the limits for limited tender enquiries and advertised tenders have been increased from ₹50 lakh to ₹1 crore. Additionally, heads of institutions can now approve Global Tender Enquiries (GTEs) up to ₹200 crore—previously a power reserved for central authorities.

The new policies respond directly to longstanding grievances from research scholars and faculty, who often faced delays due to slow exemption processes and cumbersome procurement rules. A recent report by the Economic Advisory Council to the Prime Minister, along with a presentation by the PSA’s office, highlighted how rules originally intended to ensure transparency were inadvertently hampering scientific progress.

Dr. Jitendra Singh clarified that while these reforms offer greater flexibility, they are built on a foundation of trust and accountability. “There is an enormous responsibility that comes with this autonomy. We are relying on the integrity of the science community to ensure that this flexibility is used judiciously,” he said. The move is seen as part of the broader national effort to position India as an innovation-driven economy. Dr. Jitendra Singh pointed out that similar liberalisation in the space and nuclear sectors had yielded strong results. “We opened up the space sector, and today we’re looking at an $8 billion economy poised to grow fivefold. These reforms are meant to replicate that success across the R&D ecosystem.”

He also underlined the alignment of these reforms with the National Education Policy 2020, which encourages interdisciplinary flexibility and student-led academic trajectories. “If we are allowing students to choose their learning paths, we must also enable the research ecosystem to support that ambition,” he said.

The policy changes are expected to significantly reduce delays in research projects, improve access to high-end equipment, and motivate young scholars, start-ups, and innovators who had often taken to social media to express their frustration with existing bottlenecks. With the Modi government completing 11 years in office, the announcement is being seen as a reaffirmation of its focus on science, innovation, and youth-led development—core themes that Dr. Jitendra Singh said are “integral to India’s future global role.”

The press conference was addressed in the presence of Dr. Rajesh S. Gokhale, Secretary, Department of Biotechnology; Prof. A. K. Sood, Principal Scientific Advisor to the Government of India; and Sunil Kumar, Additional Secretary, Department of Science & Technology, with participation from scientists and senior officials of the respective departments.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=2136460

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Leak in Russian service module led to delay in Axiom-4 mission launch: ISRO

Source: Hindustan Times, Dt. 14 Jun 2025

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MUMBAI: For the first time since the Axiom-4 (Ax-4) space mission hit a pause, the Indian Space Research Organisation (Isro) on Friday released a detailed update on the sequence of events that has kept Air Force Group Captain Shubhanshu Shukla from making history as the first Indian astronaut to the International Space Station (ISS).

The Ax-4 mission of Texas-based Axiom Space, SpaceX, and NASA was to take off a four-member crew from India, Hungary, Poland, and the US for a two-week mission. In addition to mission pilot Shukla, the other members of the crew comprise commander Peggy Whitson, a former NASA astronaut, and mission specialists Sławosz Uznański and Tibor Kapu. When it fructifies, it will be the first human spaceflight carrying an Indian, a Hungarian, and a Pole to space after more than 40 years.

On June 11, the Ax-4 mission to the International Space Station (ISS) was called off for the fourth time after a liquid oxygen leak was detected in the propulsion bay during a seven-second hot test on the launch pad as part of launch vehicle preparation. Even as the three agencies and Isro were working closely to fix the issue, there emerged another technical problem. This time on ISS.

At 1.12 am Friday (June 13), Isro chairman V Narayanan posted on X that the Indian space agency is working closely with Axiom Space, NASA and SpaceX to address the ISS Zvezda module observation causing the Ax-4 delay. "Safety and mission integrity remain our top priorities," said Narayanan.

The Isro update said NASA is working with Roscosmos (Russian State Corporation for Space Activities) to evaluate a new pressure signature that indicates a leak in the aft most segment of the ISS Zvezda Russian service module, after the recent repair attempt. The Zvezda Service Module was the first fully Russian contribution to ISS, which according to NASA served as the early cornerstone for the first human habitation of the station.

"In order to assess the situation and determine the need for further troubleshooting, the launch of the Axiom-4 mission is being postponed. The revised launch schedule will be announced by NASA and Axiom after the activities and technical reviews are satisfactorily completed," read the Isro update.

During the appraisal of technical issues by Axiom & SpaceX to ISRO delegation on June 10, 2025, ISRO recommended to carry out in-situ repairs or replacement and conduct a low-temperature leak test to validate system performance and integrity, before proceeding with launch clearance.

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Axiom-4 mission now eyes June 19 lift-off: ISRO

Source: The Indian Express, Dt. 15 Jun 2025

INDIAN ASTRONAUT Shubhanshu Shukla and three others are expected to travel to the International Space Station on June 19, after SpaceX successfully resolved the liquid oxygen leak in its Falcon-9 rocket, the Indian Space Research Organisation (ISRO) announced Saturday.

The Axiom Space mission was to blast off from NASA's Kennedy Space Centre in Florida on June 11, but the launch had to be delayed first due to a fuel leak in SpaceX's Falcon-9 rocket and then due to a leak in the Russian section of the International Space Station (ISS).

"Axiom Space is now targeting June 19, 2025, for the launch of the Ax-04 mission," ISRO said.

Former NASA astronaut and Director of Human Spaceflight at Axiom Space, Peggy Whitson, will command the commercial mission, while Shukla will serve as the pilot. The two mission specialists are European Space Agency (ESA) project astronaut Slawosz Uznanski-Wisniewski of Poland and Tibor Kapu of Hungary.

The 14-day mission will "realise the return" to human spaceflight for India, Poland and Hungary.

The original scheduled for lift-off was on May 29, which was put off to June 8, June 10 and June 11.

"SpaceX team has confirmed that all the issues... have been duly addressed," Minister of State in the Prime Minister's Office, Jitendra Singh, posted on X.

"During a follow-on coordination meeting between ISRO, Axiom Space, and SpaceX, it was confirmed that the liquid oxygen leak observed in the Falcon 9 launch vehicle has been successfully resolved," the ISRO said in a statement.

At a pre-launch press meet on June 10, SpaceX Vice President William Gerstenmaier said engineers had detected a liquid oxygen (LOX) leak on the Falcon-9 booster during the re-entry phase of its previous mission that was not fully repaired during refurbishment.

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Axiom-4 mission: Indefinite delay due to leak on ISS, not oxygen leak on launch vehicle

Source: The Indian Express, Dt. 14 Jun 2025

While problems in electricals, oxygen leak, and unfavourable weather conditions were initially behind the delays of Axiom-4 space mission, it was an issue related to pressurisation in one of the modules of the International Space Station (ISS) that has now led to the mission being delayed indefinitely.

“The revised launch schedule will be announced by NASA and Axiom after the activities and technical reviews are satisfactorily completed,” the Indian Space Research Organisation (ISRO) said in a statement.

Indian astronaut Group Captain Shubhanshu Shukla is set to travel to space on board Axiom-4 mission, making him the country’s second astronaut in space and the first on the ISS. Shukla will spend nearly 14 days at the ISS, conducting science experiments.

On Friday, ISRO provided a timeline of what led to the delays. The launch was initially targeted for May 29 but was deferred due to an “observation in the electrical harness” of the SpaceX Dragon spacecraft — the module where the crew is seated for their journey to the ISS. The launch was then pushed to June 8 and then again by another day due to the delay in preparedness of the SpaceX Falcon 9 launch vehicle.

The space agency said the launch was again pushed for a day due to unfavourable weather conditions on the ascent path of the rocket. In parallel, when the engines were test-fired on ground on June 8, an oxygen leak was observed in addition to an anomaly in one of the actuators.

“Anticipating the quick resolution of LOX (liquid oxygen) leak issue, the launch was rescheduled to June 11, 2025,” the space agency said, adding that it had suggested that the repairs and replacements could be carried out without moving or disassembling the vehicle.

The Indian space agency suggested a low temperature leak test — a test that could assess the integrity of the components at very low temperatures — to validate the performance before moving for the final launch.

On June 11, however, NASA informed that it was working with the Russian space agency to evaluate a “new pressure signature” that could indicate a leak in the back section of one of Russian modules of the space station — ISS Zvezda. This comes after a recent repair effort.

The leak in the Zvezda module was first detected in 2019 and the space agencies have been working for years trying to fix it. Now, cosmonauts on board the space station have conducted inspections of the pressurised interior surfaces of the module, sealed off some “additional areas of interest”, and measured the current leak rate. “The segment now is holding pressure,” NASA said in a statement. The Axiom-4 mission was postponed, nonetheless, to provide additional time to NASA and Roscosmos to evaluate the situation and determine if any additional troubleshooting might be needed.

https://indianexpress.com/article/technology/science/axiom-4-mission-iss-oxygen-leak-launch-vehicle-delay-10064277/

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Change the Angle

Source: The Indian Express, Dt. 14 Jun 2025

PERSPECTIVE IS everything. It has now been reaffirmed by the Solar Orbiter -- a Sun-observing probe launched jointly by the European Space Agency and NASA in 2020. On Wednesday, the spacecraft released images of the Sun's South Pole, marking a scientific breakthrough in space. Made possible by a tilt in the orbit of the probe, these are first images of the poles from outside the ecliptic plane. The new angle also allowed the Orbiter to map magnetic activity at the Sun's pole — a groundbreaking reveal for the future of solar research.

Carole Mundell, the ESA's director of science, has said, "These new unique views... are the beginning of a new era of solar science." All spacecraft, probes and planets orbit the Sun within a flat disc — images of the Sun so far have also been from this plane. By tilting its orbit, the ESA-NASA probe captured new angles — both to study and gaze at. The only other craft to have flown over the Sun's poles was NASA's Ulysses probe in 1990. But it did not carry a camera. Given that magnetic activity determines a great deal about the environment and character of the Sun, a peek at it opens up new horizons. Most importantly, with the 17-degree tilt expected to last until December 2026, and further tilts in the offing, the best images are yet to come.

With the rapid strides space exploration has made in recent years, many pieces are falling into place, and the puzzle of the universe is clearer today than ever before. That the most recent achievement has been made possible due to a simple shift in perspective is revealing about the nature of science — and humanity. To unveil and capture such significant details of a celestial object through such a tiny manoeuvre offers a lesson. Sometimes, all you need is a change of angle.

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केंद्र ने वैज्ञानिक के उपकरण और अन्य वस्तुओ के ख़रीद नियमो में ढील दी

Source: Jansatta, Dt. 16 Jun 2025

जनसत्ता ब्यूरो
नई दिल्ली, 15 जून।

अनुसंधानकर्ताओं की ओर उठ रही मांगों के बीच सरकार ने रक्षा अनुसंधान संगठनों सहित विभिन्न वैज्ञानिक संस्थानों को वैज्ञानिक उपकरणों और उपभोग्य सामग्रियों की खरीद के लिए वित्तीय सीमा बढ़ा दी है। 'जीइएम' पोर्टल के अतिरिक्त दूसरे स्रोतों से ऐसी खरीदारी की मंजूरी प्रदान की है।

मौजूदा वित्तीय नियमों के तहत 200 करोड़ रुपए से कम मूल्य के उपकरणों की खरीद सरकारी ई-मार्केट प्लेस (जीईएम) पोर्टल और स्थानीय उत्पादकों से ही करना अनिवार्य किया गया है ताकि घरेलू विनिर्माण क्षेत्र को बढ़ावा मिल सके। लेकिन, इन नियमों के कारण कई वैज्ञानिकों और शोधकर्ताओं को समस्याओं का सामना करना पड़ रहा है क्योंकि उच्च स्तरीय, कई अनुसंधान उपकरण जीइएम पोर्टल पर उपलब्ध नहीं होते हैं। अधिकारियों ने बताया कि भारतीय आयुर्विज्ञान अनुसंधान परिषद (आईसीएमआर), रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) और भारतीय कृषि अनुसंधान परिषद उन संस्थानों में शामिल हैं, जिन्हें सामान्य वित्तीय नियमों (जीएफआर) में बदलावों से लाभ मिलेगा। इन बदलावों से पारंपरिक खरीद में पेश आने वाली बाधाएं दूर हो गई हैं। विज्ञान एवं प्रौद्योगिकी मंत्री जितेंद्र सिंह ने कहा कि इसका उद्देश्य मौजूदा ढांचे के भीतर नवाचार को अधिक से अधिक स्वतंत्रता देना है। उन्होंने कहा कि सरकारी खरीद में पारदर्शिता सुनिश्चित करने के लिए जीइएम पोर्टल की शुरुआत की गई थी, लेकिन अनुसंधानकर्ताओं की जरूरतों को पूरा करने के लिए शायद तंत्र विकसित नहीं हो पाया है।

> *मौजूदा* वित्तीय नियमों के तहत 200 करोड़ रुपए से कम मूल्य के उपकरणों की खरीद सरकारी ई-मार्केट प्लेस (जीईएम) पोर्टल और स्थानीय उत्पादकों से ही करना अनिवार्य किया गया है ताकि घरेलू विनिर्माण क्षेत्र को बढ़ावा मिल सके।

विज्ञान एवं प्रौद्योगिकी राज्यमंत्री, जितेंद्र सिंह ने संवाददाताओं से बातचीत में कहा, जब हम वैश्विक भूमिका निभाने की ओर अग्रसर हैं, तो हमें वैश्विक मापदंडों का पालन करना होगा। हमारे मानक वैश्विक मानकों से संबंधित होने चाहिए। जीएफआर में विशेष प्रावधानों में संशोधन के अनुसार, विभिन्न अनुसंधान एवं विकास संस्थानों के कुलपति और निदेशक अब अनुसंधान उद्देश्यों के लिए दो लाख रुपए तक के वैज्ञानिक उपकरण और उपभोग्य वस्तुएं बिना किसी 'कोटेशन' के खरीद सकेंगे, पहले यह सीमा एक लाख रुपए थी।

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यूपी में पेलोड के साथ पहला रॉकेट प्रक्षेपण परीक्षण सफल

Source: Jansatta, Dt. 16 Jun 2025

जनसत्ता ब्यूरो
नई दिल्ली, 15 जून।

उत्तर प्रदेश के कुशीनगर जिले में एक सफल माडल राकेट प्रक्षेपण परीक्षण किया गया। यह पहली बार है जब राज्य से राकेट के जरिए कोई पेलोड प्रक्षेपित किया गया।

अधिकारियों ने बताया भारतीय राष्ट्रीय अंतरिक्ष संवर्धन एवं प्राधिकरण केंद्र (इन-स्पेस) और इसरो के सहयोग से एस्ट्रोनाटिकल सोसाइटी आफ इंडिया द्वारा शनिवार को किए गए परीक्षण में माडल राकेट शाम पांच बजकर 14 मिनट पर 1.12 किलोमीटर ऊपर तक गया। परीक्षण स्थल पर मौजूद इसरो के वैज्ञानिक अभिषेक सिंह ने कहा कि राकेट को शाम पांच बजकर 14 मिनट 33 सेकंड पर प्रक्षेपित किया गया, जो 1.1 किलोमीटर की ऊंचाई तक गया।

इसके बाद एक छोटा उपग्रह (पेलोड) बाहर आया। जैसे ही यह पांच मीटर नीचे आया, इसका पैराशूट सक्रिय हो गया और उपग्रह जमीन पर 400 मीटर की दूरी पर उतर गया। पंद्रह किलोग्राम का राकेट भी सुरक्षित रूप से नीचे उतरा। इन-स्पेस के संवर्धन निदेशालय के निदेशक विनोद कुमार ने परीक्षण की सफलता की पुष्टि की।

उन्होंने कहा कि यह कार्यक्रम पूरे क्षेत्र और पूरे देश के बच्चों में अंतरिक्ष प्रौद्योगिकी के प्रति रुचि पैदा करने के लिए आयोजित किया जा रहा है। कुमार ने कहा कि यह पहली बार था जब उत्तर प्रदेश में रॉकेट द्वारा सीधे उपग्रह प्रक्षेपित किया गया, जो पूरी तरह सफल रहा। इन-स्पेस अंतरिक्ष विभाग (डीओएस) के तहत संचालित एक स्वायत्त निकाय है।

प्रतियोगिता में विद्यार्थियों द्वारा निर्मित माडल और 'कैनसैट' प्रक्षेपित किए जाएंगे। 'कैनसैट' छोटे उपग्रह होते हैं जो एक शीतल पेय के डिब्बे में समा जाते हैं।

इनका उपयोग छात्रों को वास्तविक अंतरिक्ष परियोजनाओं के विकास का प्रत्यक्ष अनुभव देने के लिए किया जाता है।

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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