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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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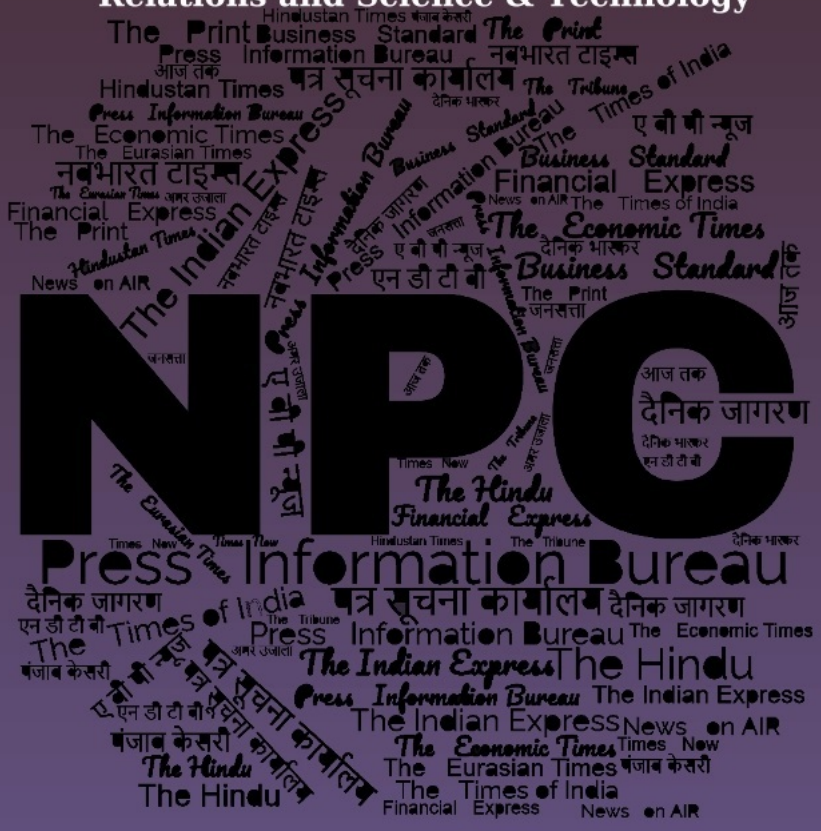

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Defence News

डिफेंस में 10 साल के फ्रेमवर्क पर भारत और अमेरिका में हुई बात

Source: NavBharat Times, Dt. 03 Jul 2025

■ भारत और अमेरिका द्विपक्षीय रक्षा सहयोग को लेकर 10 साल के फ्रेमवर्क की दिशा में आगे बढ़ रहे है। विदेश मंत्री एस जयशंकर क्वाड विदेश मंत्रियों की बैठक के लिए इस वक्त वॉशिंगटन डीसी में है। इस दौरान उनकी अमेरिकी डिफेंस सेक्रेटरी पीट हेगसेथ से मुलाकात हुई। भारत में अमेरिकी दूतावास के एक बयान के मुताबिक अमेरिकी और भारतीय समकक्ष ने माना कि दोनों, देश सुरक्षा चिंताओं को समझते है और दोनों ही देशों में इस चुनौती का सामना करने की क्षमता है। इस दौरान दोनों पक्षों के बीच उपकरणों को सफलतापूर्वक शामिल किए जाने की भी चर्चा हुई थी।

अमेरिकी पक्ष ने भारत की इन्वेंटरी में अमेरिकी डिफेंस आइटम्स के इंटिग्रेशन से खुशी जताई। हेगसेथ ने कहा कि ऐसे में उम्मीद है कि अमेरिका भारत को निलंबित पड़ी यूएस डिफेंस खरीद को पूरा कर पाएगा। उन्होंने कहा कि उन्हें उम्मीद है कि हम अपने साझे डिफेंस इंडस्ट्रियल विकास को विस्तार दे पाएंगे और साथ ही जल्द औपचारिक तौर पर 10 साल के लिए यूएस इंडिया मेजर डिफेंस पार्टनरशिप पर औपचारिक तौर पर मुहर लगा पाएंगे। दोनों पक्षों ने अगली यूएस-भारत एक्सिलेरेशन इकोसिस्टम समिट में सहभागिता को लेकर भी चर्चा की। विदेश मंत्री जयशंकर ने रक्षा संबंधों को द्विपक्षीय संबंधों का आधार बताया, कहा ये केवल साझा हितों पर आधारित नहीं है, ये क्षमताओं और जिम्मेदारियों का एक समावेश भी है। जयशंकर ने कहा कि दोनों देशों के रिश्ते मजबूत है, लेकिन और भी बहुत कुछ किया जा सकता है।

जयशंकर ने अमेरिकी डिफेंस सेक्रेटरी पीट हेगसेथ से मुलाकात की।

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In meet with Jaishankar, US defence secretary seeks completion of pending defence sales

Source: The Times of India, Dt. 03 Jul 2025

As foreign minister S Jaishankar held a bilateral meeting with US defence secretary Pete Hegseth, the latter expressed hope that the US can complete several major pending defence sales to India and expand shared defence industrial cooperation.

Noting mutual concern about the danger of aggression in the Asia-Pacific region, according to a US readout, the two reviewed pending defence sales, the signing of the next '10 Year Defence Framework' and progress on advanced tech policy reviews.

The two countries had announced plans to pursue new procurements and co-production arrangements for Javelin anti-tank guided missiles and Stryker armoured vehicles. Talks are also on for procurement of six additional P-8I maritime patrol aircraft from US.

Rubio affirms strength of India-US relations

The US is looking at more defence procurement by India also to reduce the bilateral trade imbalance.

Jaishankar told Hegseth the India-United States defence partnership is today truly one of the most consequential pillars of the relationship.

"It is not built merely on shared interests, but we believe really in deepening convergence of capabilities, of responsibilities, and what we do in the Indo-Pacific, we believe is absolutely crucial to its strategic stability," he said.

Jaishankar also met his counterpart Marco Rubio who, according to an American readout, affirmed the strength of the US-India relationship, highlighting implementation of the US-India COMPACT which will enhance collaboration on trade, defence, energy, countering illegal immigration and counternarcotics. Jaishankar said he discussed bilateral partnership, including trade, while sharing perspectives on regional and global developments.

https://timesofindia.indiatimes.com/india/in-meet-with-jaishankar-us-def-secy-seeks-completion-of-pending-defence-sales/articleshow/122215146.cms

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After delay, India may get 1st batch of Apache choppers from US by July-end

Source: The Indian Express, Dt. 03 Jul 2025

India is likely to receive three of the six AH64E Apache attack helicopters ordered for the Army by the end of this month, following multiple delays of over a year, sources told The Indian Express.

The development comes to light a day after Defence Minister Rajnath Singh, in a telephonic call with US Secretary of Defense Pete Hegseth, sought fast-tracking deliveries of the combat helicopters as well as GE F404 engines, which will power India’s LCA Tejas.

Sources said that once the choppers are delivered, a joint receipt inspection will be carried out in India by the representatives of the original equipment manufacturer and the Army.

In 2020, India and the United States signed a contract to procure six additional Apache helicopters for the Army, following a contract to procure 22 helicopters for the Indian Air Force in 2015. All 22 helicopters for the IAF have been delivered.

The six helicopters were scheduled to be delivered in three batches by last year. The delays have been attributed to technical and supply chain issues.

The development would be significant given that it gives more teeth to the Army as it looks to strengthen its combat capabilities over the next few months through a range of critical procurements in the aftermath of Operation Sindoor, which India launched against terror infrastructures in Pakistan.

The six new Apache attack helicopters will be based at Jodhpur in Rajasthan for deployment along the western borders along Pakistan. The Apache squadron in Jodhpur was established last year by the Army Aviation Corps.

Apart from Apache helicopters, the Army and the IAF also have the Light Combat Helicopter Prachand.

In March, the Ministry of Defence signed two contracts with the state-owned Hindustan Aeronautics Limited (HAL) for the supply of 156 LCH Prachand, along with training and other associated equipment worth Rs 62,700 crore. The first contract is for the supply of 66 LCHs to the IAF, and the second is for the supply of 90 LCHs to the Army.

https://indianexpress.com/article/india/after-delay-india-may-get-1st-batch-of-apache-choppers-from-us-by-july-end-10102884/

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After Operation Sindoor, don't delay the stocktaking

-by Arun Prakash, former Indian Navy chief and chairman, Chief of Staff Committee

Source: The Indian Express, Dt. 03 Jul 2025

While Pakistani Field Marshal Asim Munir's oration at the Pakistan Naval Academy on June 28 has drawn considerable media focus, there is a need to assess how much attention India should pay to his utterances. The rabble-rousing tone and toxic India-baiting content of his speech, ill-befitting the occasion — a navy passing-out parade — was a clear sign of insecurity in the face of widespread public criticism of the Pakistan army in general and his promotion in particular.

Notwithstanding the banality of his words, we must recognise that since Field Marshals do not retire, Munir, if he so chooses, will be around for a long time — either as Army Chief or as political puppet master. By harping on Hindu-Muslim schisms and framing India as an "existential threat" to its perpetual "victim", Pakistan, Munir seeks to gain favour with the public and cement a political niche for himself, sidelining the civilian regime.

Given Munir's continued malevolent presence, India must steel itself to face escalating tensions. In all likelihood, it was his inflammatory rhetoric that triggered Pakistan's Inter-Services Intelligence and its terror proxies to plan and launch the Pahalgam strike.

Prime Minister Narendra Modi, in his speech on May 12, unequivocally spelt out four core principles that would govern India's future policy against terrorism. Optimists amongst us are hopeful that this declaration of India's "red lines" by the PM will cause the Pakistan "deep state" to

pause and perhaps mend its ways. Sceptics, however, believe that it is only a matter of time before the ISI initiates yet another terror strike on India.

In these circumstances, no time must be lost in analysing threadbare Operation Sindoor and disseminating the lessons learnt — at the strategic, operational and tactical levels — before we are faced with a similar crisis once again. In this context, we have the admirable precedent of the Vajpayee government, which constituted the Kargil Review Committee on July 29, 1999 — a mere three days after the cessation of hostilities.

The urgency here is even more marked since this “90-hour war” saw an unimaginable leap in the level of technologies employed in combat and the dizzying pace of kinetic action. While India asserted its success in achieving its objectives of targeting terrorist infrastructure and demonstrating a markedly bolder and more resolute deterrence strategy, there are several aspects that require urgent review and analysis.

First, we were found wanting in strategic communication and narrative-building. While the conflict generated unprecedented levels of hyperbolic distortion and disinformation from media on both sides, India’s lag in official narrative-building allowed Pakistan to steal a significant march. Compared to Pakistan’s proactive media outreach and timely official briefings, Indian briefings were often reactive, and failed to put across, our notable military successes.

Second, the issue of aircraft losses suffered by India was ineptly handled across the board. Since aircraft attrition is an inevitable consequence in combat, there was little to be gained by concealing or acting coy about Indian Air Force (IAF) losses. The exaggerated Pakistani claims could not be logically countered by the dribbles of information coming first from the Shangri-la Dialogue in Singapore and then from a seminar in Indonesia. A forthright admission, followed by an account of the next day’s devastating Indian response, which claimed six Pakistan Air Force (PAF) fighters and two other aircraft, would have boosted the credibility of our narrative.

Third, the extensive employment of “beyond visual range” or BVR air-to-air missiles and advanced airborne radars in this conflict has proved a major game-changer in air combat. This demands urgent in-depth study and analysis. The aerial engagements on the night of May 7/8 between the two South Asian air forces, involving over 100 aircraft, were unprecedented and have captured the attention of air power analysts worldwide.

A comprehensive review of what is being termed, “the largest BVR air combat in history” during Operation Sindoor is best undertaken by the IAF’s esteemed Tactics and Combat Development Establishment, particularly against the backdrop of our past experience of “aerial ambushes” in Kargil and in the post-Balakot encounters. The lacunae in equipment and intelligence as well as lessons learned and changes required in training, tactics and strategies must be addressed post-haste.

Rising above the minutiae of physical conflict, we need to remind our decision-makers that wars, if inevitable, must be waged only to eliminate the casus belli and achieve a stable and enduring peace. This places three responsibilities on the country’s political leadership: (a) to lay down, clear aims for which armed action is being initiated; (b) to specify, to the military, the desired “end-state” to be achieved, before termination of hostilities; and (c) to ensure that adequate resources are provided — in time — for the action contemplated.

There is scant authentic information on these aspects in the public domain. The waters have been further muddied by US President Donald Trump’s insistent claims of brokering peace. In the face of incessant commentary by Western observers about the risks of nuclear first use in South Asia, it

was reassuring to hear from India's CDS about the "rationality and maturity", displayed by both sides in avoiding escalation to the nuclear threshold.

The extensive utilisation of cyber warfare and missiles as well as unmanned vehicles enabled both sides to wage "non-contact warfare". This calls for a comprehensive doctrinal re-think about the future of manned combat platforms. Moreover, the sheer intensity of this brief eruption and rapid expenditure of (expensive) munitions should lead to reflection about the status of our "war wastage reserves", and their replenishment.

In essence, the May 2025 conflict served as a stark reminder of the volatile nature of the India-Pakistan relationship and the critical need for robust crisis management mechanisms as well as military preparedness. The intent of Operation Sindoor was "deterrence by punishment" but as we await its long-term impact, India's national security establishment needs to think long and hard about alternate strategies to address the casus belli.

https://indianexpress.com/article/opinion/columns/after-operation-sindoor-dont-delay-the-stocktaking-10102906/

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Science & Technology News

Indian Scientists Engineer Supercharged Green Energy Material

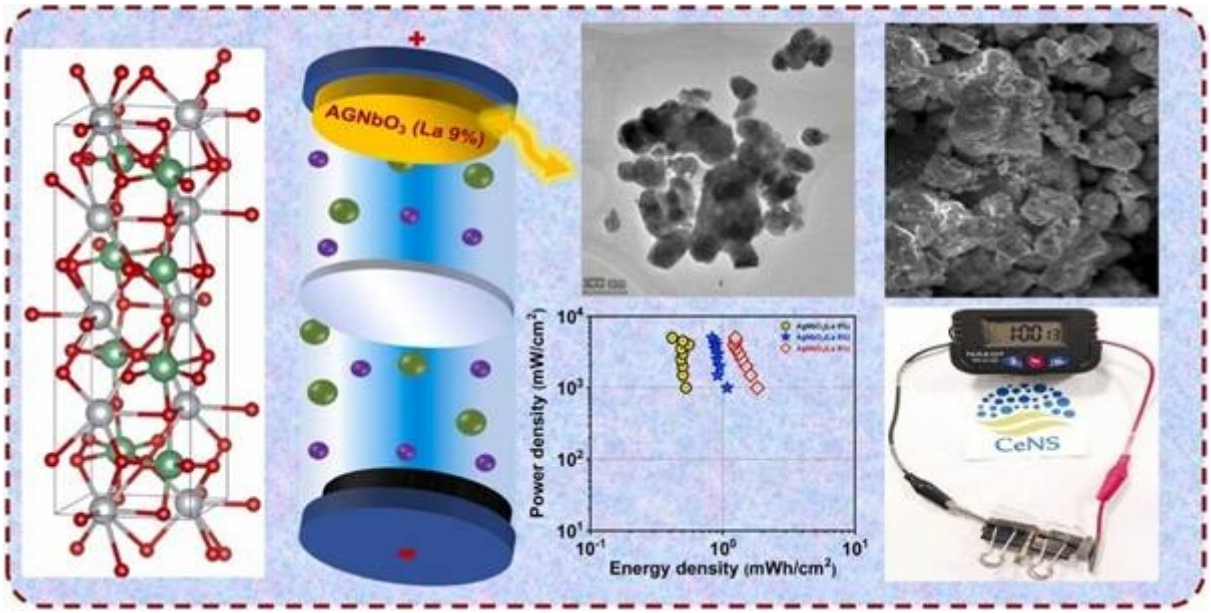
Source: Press Information Bureau, Dt. 02 Jul 2025

In a breakthrough that could redefine how we store and use energy, Scientists from Bengaluru, in collaboration with Aligarh Muslim University, have engineered a next-generation energy storage material that dramatically enhances supercapacitor performance.

At the heart of modern energy storage lies the supercapacitor—a device that can rapidly store and release large amounts of energy making them crucial for powering everything from mobile devices and electric vehicles to renewable energy systems. While faster than batteries, supercapacitors have often lagged behind in how much energy they can hold? Scientists have been exploring for materials that can increase storage without sacrificing speed or longevity.

A team of Indian researchers led by Dr. Kavita Pandey at the Centre for Nano and Soft Matter Sciences (CeNS), Bengaluru—an autonomous institute under the Department of Science and Technology (DST), Government of India, focused on silver niobate ($AgNbO_3$), a lead-free and environmentally friendly material with excellent electrical characteristics.

They injected lanthanum, a rare-earth element known for its beneficial electronic properties into silver niobate nanoparticles. This shrank the silver niobate nanoparticles particles allowing more surface area for energy storage. The lanthanum improved the material's ability to conduct electricity, thus speeding up the energy charge-discharge cycles. As a result of the lanthanum doping strategy, energy retention skyrocketed—the material retained 118% of its initial capacity after extensive use and efficiency hit perfection—with virtually no energy lost in use, giving 100% coulombic efficiency.



Crystal configuration of Lanthanum-doped silver niobate and the photograph demonstrating the supercapacitor device successfully powering an LCD display

An asymmetric supercapacitor prototype was built with the material successfully powered an LCD display, hinting at real-world applications. This research, published in the Journal of Alloys and Compounds, highlights the exciting potential of lanthanum doping as a strategy for tailoring the properties of silver niobate nanoparticles for high-performance supercapacitors. The findings enhance the promise of $AgNbO_3$ nanoparticles in electrochemical energy storage and showcase the important role of rare-earth doping in material innovation. Due to the global push for clean and efficient energy storage solutions, advancements like this are significant milestones.

By boosting energy density without compromising power output and stability, La-doped silver niobate can help pave the way for compact, high-efficiency storage devices suitable for both portable electronics to large-scale renewable energy systems. Looking ahead, future research will explore doping strategies in other perovskites and work towards scaling up the production of lanthanum-doped silver niobate components to ensure commercial feasibility.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=2141570

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Axiom-4 trip to the ISS will provide valuable inputs for Gaganyaan mission: ISRO

Source: The Hindu, Dt. 03 Jul 2025

The Indian Space Research Organisation (ISRO) has said that the Axiom-4 (Ax-04) mission which Group Captain Shubhanshu Shukla is part of will provide valuable inputs for India's upcoming Gaganyaan mission. "The Ax-04 mission will provide valuable inputs for ISRO's upcoming Gaganyaan mission. It offers hands-on experience in the nuances of international crew integration, medical and psychological preparation, real-time health telemetry, experiment execution, and crew–ground coordination," ISRO said.

It added that these insights will directly influence mission planning, safety validation, and astronaut readiness for India's first indigenous human spaceflight mission. "This is one small step in orbit, but a giant leap in India's pursuit of human spaceflight and scientific discovery," it added.

ISRO said that preparations are also in progress for abort missions of the Gaganyaan mission and the first uncrewed test flight is targeted for the fourth quarter of 2025. It added that the first crewed flight of the Gaganyaan mission is expected by the first quarter of 2027. The space agency also said that as a tribute to India's rich cultural heritage, Group Captain Shukla is carrying a selection of the finest of Indian handicrafts to the International Space Station (ISS).

"These symbolic items, designed by students of the National Institute of Design, Ahmedabad, reflect the diversity, craftsmanship, and timeless beauty of India's traditional art forms, carefully curated to represent different regions and materials. These pieces serve as cultural ambassadors in space. Their journey aboard the ISS not only celebrates India's artistic legacy but also honours the generations of artisans who continue to keep these traditions alive," the space agency said.

https://www.thehindu.com/sci-tech/science/axiom-4-will-provide-valuable-inputs-for-gaganyaan-mission-isro/article69764597.ece

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'Desert Planet': Why there is no life on mars? NASA rover finds a clue

Source: Hindustan Times, Dt. 03 Jul 2025

PARIS: Why is Mars barren and uninhabitable, while life has always thrived here on our relatively similar planet Earth?

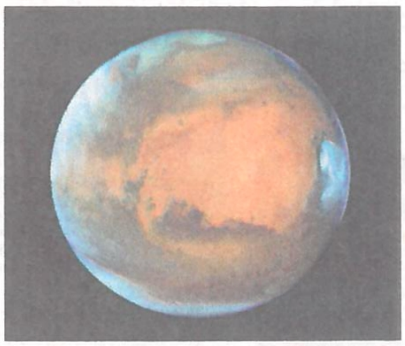
A discovery made by a Nasa rover has offered a clue for this mystery, new research said on Wednesday, suggesting that while rivers once sporadically flowed on Mars, it was doomed to mostly be a "desert planet".

Mars is thought to currently have all the necessary ingredients for life except for perhaps the most important one: liquid water.

However the red surface is carved out by ancient rivers and lakes, showing that water once flowed on our nearest neighbour.

There are currently several rovers searching Mars for signs of life that could have existed back in those more habitable times, millions of years ago.

Earlier this year, Nasa's Curiosity rover discovered a missing piece in this puzzle: rocks that are rich in carbonate minerals.



The Mars planet REUTERS

These "carbonates" — such as limestone on Earth — act as a sponge for carbon dioxide, pulling it in from the atmosphere and trapping it in rock.

A new study, published in the journal Nature, modelled exactly how the existence of these rocks could change our understanding of Mars's past.

Lead study author Edwin Kite, a planetary scientist at the University of Chicago and a member of the Curiosity team, said it appeared there were "blips of habitability in some times and places" on Mars.

But these "oases" were the exception rather than the rule.

On Earth, carbon dioxide in the atmosphere warms the planet. Over long timescales, the carbon becomes trapped in rocks such as carbonates. Then volcanic eruptions spew the gas back into the atmosphere, creating a well-balanced climate cycle supportive of consistently running water.

However Mars has a "feeble" rate of volcanic outgassing compared to Earth, Kite said. This throws off the balance, leaving Mars much colder and less hospitable. According to the modelling research, the brief periods of liquid water on Mars were followed by 100 million years of barren desert — a long time for anything to survive.

It is still possible that there are pockets of liquid water deep underground on Mars we have not yet found, Kite said. AFP

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The Tribune
The Statesman
पंजाब केसरी जनसत्ता
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