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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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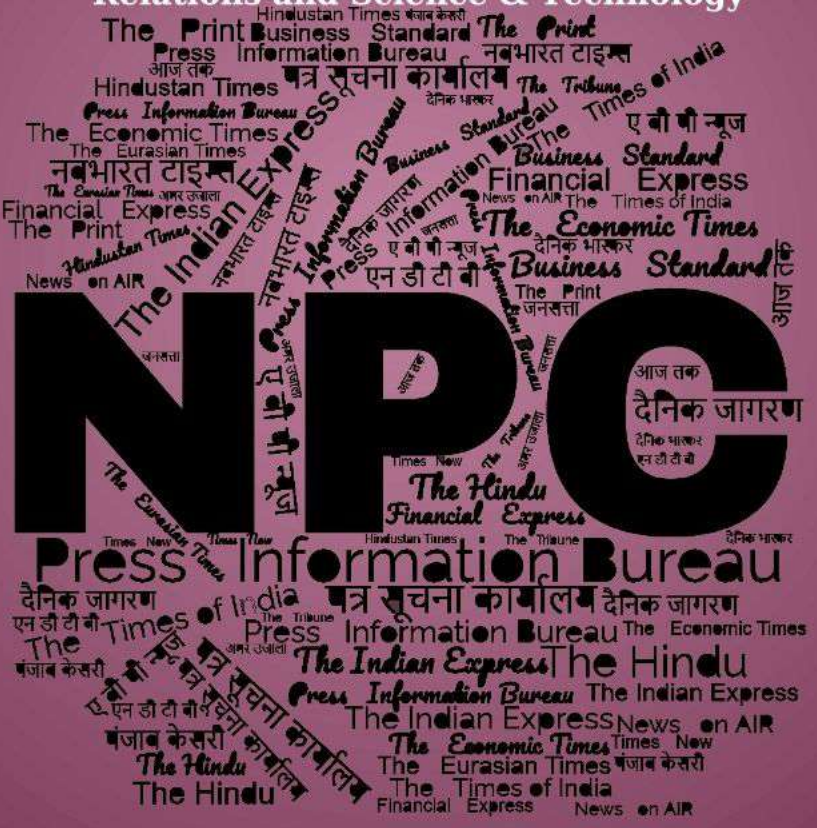

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Defence News

Defence Strategic: National/International

INDIAN NAVAL SHIP IMPHAL TO PARTICIPATE IN MAURITIUS NATIONAL DAY CELEBRATIONS 2025

Source: Press Information Bureau, Dt. 10 March 2025,
URL: https://pib.gov.in/PressReleasePage.aspx?PRID=2110026

Indian Naval Ship Imphal makes her maiden port call at Port Louis, the capital city of Mauritius, on **10 Mar 25**. The ship will participate in the **57th Mauritius National Day celebrations on 12 Mar 25**. The visit of INS Imphal is in keeping with the tradition of Indian warships and aircraft participating in Mauritius National Day celebrations. The ship will field a marching contingent, naval band and helicopter for the flypast at the National Day Parade at Champs de Mars. **Shri Narendra Modi, the Hon'ble Prime Minister of India, will be the Chief Guest at the celebrations.**

During her stay at Port Louis from 10 - 14 March, the ship is planned to participate in several training and cultural exchanges, including cross-training visits, friendly sports fixtures and community outreach activities. These activities aim to strengthen bilateral ties and maritime security cooperation between the two countries. A joint Exclusive Economic Zone (EEZ) surveillance and exercise with MCGS ships is also planned.

The planned interactions are firmly underpinned by India's 'Neighborhood First' policy and vision of ***SAGAR*** **(Security and Growth for All in the Region)** – espoused by the Hon'ble Prime Minister exactly a decade ago at Mauritius on the occasion of the commissioning of MCGS

Barracuda, the first Indian-built warship to be inducted into the Mauritius National Coast Guard on 12th Mar 15. The deployment of the latest Indian warship and aircraft at the Mauritius National Day celebrations also underscores India's deep commitment to promoting a safe, secure and stable Indian Ocean Region (IOR) in partnership with island nations, particularly Mauritius, with which it shares strong historical, political, and economic, security and socio-cultural connections.

Commissioned in Dec 23, *Imphal* is the third of the four Project 15B (Visakhapatnam class) indigenous destroyers. Equipped with state-of-the-art weapons, sensors and machinery, she ranks amongst the largest and most technologically advanced warships in the world.

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CDS Gen Anil Chauhan highlights the need for developing holistic Counter-UAS System for the Armed Forces

Source: Press Information Bureau, Dt. 10 March 2025,
URL: https://pib.gov.in/PressReleasePage.aspx?PRID=2109980

The Centre for Joint Warfare Studies (CENJOWS) successfully hosted a high-level seminar on "UAS Warfare with Special Focus on Counter-UAS" today in New Delhi. General Anil Chauhan, Chief of Defence Staff (CDS), delivered the keynote address, emphasizing the transformative impact of Unmanned Aerial Systems (UAS) in modern warfare.

Gen Chauhan highlighted the key trends -celerity, robotics advancements, and AI-driven intelligence - that are exploited by UAS, making them highly disruptive. Referencing present day conflicts, he underscored how drones are reshaping warfare economics with low-cost, high-impact solutions. CDS postulated the imperative to establish a common vocabulary and grammar on UAS / Drones / Uncrewed Systems by the Indian Armed Forces. Stressing doctrinal clarity in UAS classification, he outlined four generations of UAS and the need for developing holistic Counter-UAS systems. He also called for synergy between users, designers, and manufacturers, ensuring India's self-reliant defence future.

Key Achievements:

• Showcasing India's Advancements in UAS and Counter-UAS Technologies: The seminar underscored India's progress in drone warfare, with a focus on indigenous development and self-reliance under the 'Aatmanirbhar Bharat' initiative.

• Strategic Dialogue on Drone Warfare: Experts provided in-depth analysis on India's drone requirements, AI integration in drone warfare, and key lessons from ongoing global conflicts.

• Strengthening Border Security: Discussions focused on the increasing manifestation of drone threats along India's northern and western borders, as well as in the Indian Ocean Region (IOR), highlighting the need for advanced detection and neutralization systems.

• Enhanced Collaboration Between Military and Industry: Leading defence industry representatives, including JSW UAV ltd, Mahindra Defence, Adani Defence Systems, Kepler Aerospace, and Shyam VNL Pvt Ltd, presented cutting-edge solutions for counter-UAS warfare.

• Policy Recommendations for a National Counter-UAS Strategy: The seminar facilitated high-level discussions on a "Whole-of-Nation" approach to countering drone threats, including legal frameworks, electronic warfare advancements, and multi-domain unmanned systems.

Prominent military and strategic leaders, including Lt Gen NS Raja Subramani, Vice Chief of Army Staff, Air Marshal SP Dharkar, Vice Chief of Air Staff, Vice Admiral Tarun Sobti, Deputy Chief of Naval Staff and Lt Gen Vipul Shinghal, Deputy Chief of Integrated Defence Staff chaired various discussions, further enriching the dialogue on future counter-drone strategies.

The seminar brought together distinguished experts from the Indian Armed Forces, strategic policymakers, industry leaders, and domain specialists to deliberate on the latest advancements in Unmanned Aerial Systems (UAS) and evolving counter-UAS strategies. It reinforced the importance of integrating indigenous technologies with strategic policy frameworks to strengthen national security. It included all the stake holders such as BSF, ITBP, Coast Guard and Police. The accompanying exhibition showcased groundbreaking advancements in drone and counter-drone technologies, further solidifying India's role as a leader in modern warfare capabilities.

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SCHEMES FOR WIDOWS OF EX-SERVICEMEN

Source: Press Information Bureau, Dt. 10 March 2025,
URL: https://pib.gov.in/PressReleasePage.aspx?PRID=2109846

The total number of widows of Ex-Servicemen in the country is 7,40,766 as on December 31, 2024. State/UT-wise data of widows of ESM is given below:

Sl. No.	State/UT	No of Widows Registered
1	ANDHRA PRADESH	26,879
2	ARUNACHAL PRADESH	211

3	ASSAM	10,700
4	BIHAR	12,558
5	CHHATTISGARH	1,525
6	DELHI	14,273
7	GOA	510
8	GUJARAT	5,392
9	HARYANA	58,083
10	HIMACHAL PRADESH	40,232
11	JAMMU AND KASHMIR	22,761
12	JHARKHAND	5,105
13	KARNATAKA	30,552
14	KERALA	71,570
15	MADHYA PRADESH	12,506
16	MAHARASHTRA	67,757
17	MANIPUR	2,113
18	MEGHALAYA	1,517
19	MIZORAM	2,495
20	NAGALAND	993
21	ODISHA	5,988

22	PUNJAB	75,821
23	RAJASTHAN	61,080
24	SIKKIM	416
25	TAMIL NADU	58,283
26	TRIPURA	727
27	TELANGANA	8,109
28	UTTRAKHAND	50,285
29	UTTAR PRADESH	72,071
30	WEST BENGAL	15,808
31	ANDAMAN & NICOBAR (UT)	203
32	CHANDIGARH (UT)	2,490
33	PUDUCHERRY (UT)	886
34	LADAKH (UT)	867
Total		**7,40,766**

The monthly assistance to widows is being provided as family pension. Review of Family Pension is carried out based on recommendations of Pay Commissions and acceptance of the same by the Government. A Dearness Relief, which is assessed periodically may result in an increase in the amount disbursed.

Government reviews the welfare measures for war widows and families of Armed Forces personnel from time-to-time. The details of revision/enhancement made in the schemes are given below:

S No	Scheme/Grants	Amount (in Rs) enhanced w.e.f.
1.	Daughter's Marriage Grant (upto 02 Daughters) (Pensioner/Non-Pensioner upto Hav Rank)	Rs 16,000/- to Rs 50,000/- w.e.f. April 2016
	Widow Re-Marriage Grant (Pensioner/Non-Pensioner upto Hav Rank) * If married solemnly on or after 21st April, 16.	
2.	Penury Grant - 65 years and above for ESM & Widows (Non-Pensioners uptoHav or equivalent Rank)	Rs 1,000/- pm to Rs 4,000/- (Life time) w.e.f. April 2017
3.	100% Disabled Child Upto JCO extended w.e.f. April 01, 2022	Rs 1,000/- pm to Rs 3,000/- pm w.e.f. April 01, 2021
4.	Orphan Grant (Pensioner/Non-Pensioner for All Ranks) Daughters of ex-servicemen till she is married. One Son of ex-servicemen upto 21 years of age.	Rs 1,000/- pm to Rs 3,000/- pm w.e.f. April 2022
5.	Vocational Training Grant For Widows (Pensioner/Non-Pensioner upto Hav Rank)	Rs 20,000/- to Rs 50,000/- (One Time)

		w.e.f. August 11, 2023
6.	Medical Treatment Grant (Non-Pensioner upto Hav Rank)	Rs 30,000/- to Rs 50,000/- (Max) w.e.f. August 11, 2023
7.	Serious Diseases Grant (Applicable for all ranks of Non-Pensioners ESM for self and wife/widow)	Rs 1.25 lakh to Rs 1.50 lakh w.e.f. August 11, 2023
8.	Subsidy on Home Loan. KSB Reimburses 50% of interest by way of subsidy on home loan from Bank/public sector institutions for construction of house to war bereaved, war disabled and attributable peace time casualties. Rs. 1,00,000/- (Max)	Rs 1 lakh

9. Prime Minister's Scholarship Scheme: Total 5,500 scholarship are provided to eligible wards based on merit for the entire duration of the courses. With effect from FY 2019-20, the rates of scholarship are as follows:

(a) Rs 2,500/- per month for boys.

(b) Rs 3,000/- per month for girls.

Details of employment being provided on compassionate grounds to war widows based on their educational qualifications is as follows:

- **Officers**: Vacancies are reserved for widows of Ex-Servicemen and Wards/Children of Battle Casualty in Officer Selection of Indian Army. They are given preference for Short Service Commission (Technical) and Short Service Commission (Non-Technical) Women entry. Relaxation up to the age of 35 years is also provided to the widows of defence personnel. The vacancies earmarked for various officer entries in Indian Army are as under:

S No	Category	Entry	Vacancies
(i)	Widow of Defence Personnel	Short Service Commission (Non-Technical)	01
(ii)	Ward of Battle Casualty of Indian Army	SSC National Cadet Corps (NCC) Men	07

	Personnel	SSC National Cadet Corps (NCC) Women	01

- **Junior Commissioned Officers (JCOs)/Other Ranks (OR):** War widows of defence personnel who have died in harness are eligible to apply for enrolment as Women Military Police.
- **Civil Defence Employment**: As per instructions issued by DoP&T vide Office Memorandum (OM) No. 14014/1/2022-Estt(D) dated August 02, 2022 on the subject, compassionate appointment can be granted to the dependent family member of Defence Civilian employee as well as Armed Forces Personnel only against Group 'C' direct recruitment post.

Under the Housing Scheme, Army Welfare Housing Organisation has a 3% quota reserved for the widows in each project.

This information was given by Raksha Rajya Mantri Shri Sanjay Seth in a written reply to Shri Niranjan Bishi and Smt Sulata Deo in Rajya Sabha today.

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India, Armenia focus on defence ties, linkages via Iran

Source:The Economic Times, Dt. 10 March 2025,
URL: https://economictimes.indiatimes.com/news/defence/india-armenia-focus-on-defencetties-linkages-via-iran/articleshow/118856233.cms?from=mdr

India and Armenia on Monday held threadbare discussion on stepping up strategic partnership, including defence engagement and connectivity via Iran through INSTC and Chabahar Port. Visiting Armenian foreign minister Ararat Mirzoyan and external affairs minister S Jaishankar engaged in detailed conversation on expanding defence trade and connectivity initiatives, it is learnt. There was also focus on launching direct flights and enhancing business and people-to-people ties. Mirzoyan delivered a speech at the Indian Council on World Affairs, MEA's think tank.

"Armenia has always regarded India as a close partner - a nation with which we share deep civilizational bonds and a long history of amicable relations... Today, Armenia and India enjoy multifaceted cooperation that continues to evolve dynamically. The comprehensive deepening of our partnership with India constitutes a foreign policy priority for Armenia."

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Special forces of India, Kyrgyzstan set to hone counter-terror skills during KHANJAR-XII drills

Source: The Week, Dt. 10 March 2025,
URL: https://www.theweek.in/news/defence/2025/03/10/special-forces-of-india-kyrgyzstan-set-to-hone-counter-terror-skills-during-khanjar-xii-drills.html

The 12th edition of the India-Kyrgyzstan Joint Special Forces Exercise (KHANJAR-XII), focusing on developing advanced special forces skills of sniping, complex building intervention and mountain craft, began on Monday. The annual training event, held alternatively between India and Kyrgyzstan, will go on till March 23.

The special forces of both countries will exchange experiences and best practices in counter-terrorism and special forces operations in urban and mountainous high-altitude terrain scenarios during the two-weeks long event.

Apart from high-intensity training drills, the exercise will feature cultural exchanges, including the celebration of the Kyrgyz festival Nowruz. According to a defence ministry release, the interaction will further enhance the bond of friendship between the two countries.

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

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

The last edition of the same exercise was conducted in India in January 2024. The first edition of KHANJAR took place in 2011.

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North Korea building a nuclear-powered submarine that can strike US with Russian help?

Source: The Week, Dt. 10 March 2025,
URL: https://www.theweek.in/news/defence/2025/03/10/north-korea-building-a-nuclear-powered-submarine-that-can-strike-us-with-russian-help.html

In a worrying development for the US and South Korea, North Korea unveiled a nuclear-powered submarine under construction, with the state media releasing photos showing Kim Jong Un inspecting part of what looked like a new submarine which is larger than the ones already owned by the country.

According to media reports, the news of North Korea building a nuclear-powered submarine came amid reports of the country receiving technological support from Russia to modernise its armed forces for backing Moscow's war against Ukraine with manpower and conventional weapons.

North Korean media released photos showing what it called a nuclear-powered strategic guided missile submarine, without providing further details about the submarine.

Korean Central News Agency said Kim “learned about the building of a nuclear-powered strategic guided missile submarine.”

Moon Keun-sik, a South Korean submarine expert who teaches at Seoul's Hanyang University said the naval vessel appears to be a 6,000-ton-class or 7,000-ton-class one which can carry about 10 missiles, news agency AP reported. According to him, the use of the term strategic guided missiles meant it would carry nuclear-capable weapons.

It would be absolutely threatening to us and the US, Moon has been quoted as saying.

A nuclear-powered submarine that can travel long distances without the need to resurface would enable North Korea to avoid detection and come close to a faraway enemy like the US and strike.

Kim, who had earlier vowed to introduce sophisticated weaponry to cope with what he dubbed as escalating US-led military threats, has been quoted as saying that North Korea's naval might would be “fully displayed in any necessary waters without limitation.”

Meanwhile, on Monday, North Korea fired several ballistic missiles into the sea after South Korean and US troops began the annual combined drills. North Korea also issued a statement, calling the drills a dangerous provocative act that increases the risks of military conflict.

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INS Tarkash aids Iranian Dhow near Somalia, restores water supply

Source: Business Standard, Dt. 10 March 2025,
URL: https://www.business-standard.com/external-affairs-defence-security/news/ins-tarkash-aids-iranian-dhow-near-somalia-restores-water-supply-125031000779_1.html

In a display of India's commitment to maritime security and regional cooperation, the Indian Navy's warship INS Tarkash swiftly responded to an emergency at sea, assisting an Iranian dhow and its crew off the Somali coast. The vessel, which had issued a distress call, was facing critical issues with its drinking water supply, while one crew member had sustained injuries due to harsh weather conditions.

Acting promptly, the crew of INS Tarkash restored the dhow's defective Reverse Osmosis (RO) plant, ensuring access to safe drinking water for those onboard. Simultaneously, the ship's medical team provided immediate first aid to the injured sailor, stabilising his condition. This mission, part of the Indian Navy's ongoing deployment to ensure maritime safety in the Indian Ocean Region (IOR), reflects India's proactive role in upholding security and humanitarian assistance at sea.

India and Iran share a long-standing relationship built on deep-rooted historical and civilisational ties. These connections continue to shape their diplomatic and cultural engagement, supported by high-level exchanges and cooperation across trade, connectivity, and people-to-people interactions. The Swami Vivekananda Cultural Centre (SVCC), established in 2013, has played a key role in strengthening these cultural links, while tourism between the two nations remains a significant point of engagement.

Bilateral relations saw a major boost with Prime Minister Narendra Modi's visit to Iran in 2016, during which the two sides issued the joint statement "Civilisational Connect, Contemporary Context" and signed the Trilateral Agreement on Trade, Transport, and Transit with Afghanistan.

Further reinforcing ties, Iranian President Hassan Rouhani's visit to India in 2018 led to the release of the statement "Towards Prosperity Through Greater Connectivity." Trade remains a crucial pillar of this partnership, with India ranking among Iran's top five trade partners. Key Indian exports include rice, pharmaceuticals, and electrical machinery, while Iran supplies dry fruits, chemicals, and glassware.

INS Tarkash's assistance to the Iranian dhow underscores India's dedication to regional stability, demonstrating how the longstanding Indo-Iranian partnership extends beyond diplomacy into real-world cooperation on the high seas.

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With 5,000 Km Detection Range, China Deploys Phased Array Radar Near Myanmar Border To Boost Surveillance On Indian Missile Tests

Source: Swarajya, Dt. 10 March 2025,
URL: https://swarajyamag.com/news-brief/with-5000-km-detection-range-china-deploys-phased-array-radar-near-myanmar-border-to-boost-surveillance-on-indian-missile-tests

China has deployed a powerful Large Phased Array Radar (LPAR) in Yunnan province, near the China-Myanmar border, significantly enhancing its surveillance capabilities over India's ballistic missile programs, reported *The Economic Times.*

With an estimated detection range exceeding 5,000 km, the system allows Beijing to track India's missile launches in real time, including tests conducted from Dr APJ Abdul Kalam Island off Odisha's coast, a key site for trials of Agni-V ICBMs and K-4 submarine-launched missiles.

Indian security agencies have raised concerns, warning that China now has an intelligence advantage in monitoring India's strategic missile developments.

"This system allows Beijing to detect, track, and analyse every missile test India conducts, giving them insights into our strategic capabilities," a senior defence official stated to *The Economic Times.*

The Indian missile testing site, located approximately 2,000-2,200 km southwest of China's new LPAR station, falls well within its detection range, allowing continuous monitoring of India's missile advancements.

However, China's ambitions extend beyond mere tracking. LPAR systems are known for their electronic warfare capabilities, which means they can interfere with critical communication systems, including radio frequencies, GPS signals, aviation navigation, and military communications

The deployment of the Yunnan radar is part of China's broader strategy to strengthen its surveillance and missile detection network.

Beijing has also placed strategic emphasis on the Bay of Bengal and Malacca Strait, two crucial maritime regions for India's trade and naval operations.

By integrating the Yunnan LPAR with its existing radar systems in Korla and Xinjiang, China has created a wider intelligence net over India's eastern and northern frontiers.

This expansion gives the People's Liberation Army (PLA) the ability to monitor and respond to regional developments in real time.

The new radar is reportedly under the command of 'Base 37', a specialised unit of the People's Liberation Army Aerospace Force (PLAAF). Base 37 is responsible for tracking foreign space objects, providing early missile warning, space situational awareness (SSA) and orbital data.

US' Tulsi Gabbard to visit India during multi-nation trip to Indo-Pacific

Source: Business Standard, Dt. 10 March 2025,
URL: https://www.business-standard.com/external-affairs-defence-security/news/us-tulsi-gabbard-to-visit-india-during-multi-nation-trip-to-indo-pacific-125031100052_1.html

US Director of National Intelligence (DNI) Tulsi Gabbard, announced on Monday (local time) that she has embarked on a multi-nation trip to the Indo-Pacific region, during which she will visit Japan, Thailand and India.

Gabbard stated that her first stop was in Honolulu. She called "building strong relationships, understanding, and open lines of communication" vital to achieving US President Donald Trump's objectives of peace, freedom, and prosperity.

Sharing a post on X, Gabbard stated, "I am #WheelsUp on a multi-nation trip to the Indo-Pacific, a region I know very well having grown up as a child of the Pacific. I'll be going to Japan, Thailand, and India, with a brief stop in France enroute back to DC. Building strong relationships, understanding, and open lines of communication are vital to achieving President Trump's objectives of peace, freedom and prosperity. First stop: Honolulu where I'll visit IC partners and INDOPACOM leaders, and our troops engaging in training."

Notably, this is the first visit by a top White House official to India, under the Trump administration.

Her visit to India follows Prime Minister Narendra Modi's visit to the US in February. During his visit, PM Modi met with Tulsi Gabbard and called her a "strong votary" of the India-US friendship.

Gabbard also called it an "honour" to welcome PM Modi and said she looks forward to continue strengthening the US-India friendship.

This was PM Modi's first visit to the United States after Donald Trump assumed office for a second term. During his visit to the US, he met Donald Trump at the White House, the first meeting between the two leaders after Trump assumed office as the 47th US President on January 20. The two leaders shared a warm hug as Trump welcomed PM Modi at the White House.

PM Modi was among the first few world leaders to visit the United States following the inauguration of President Trump and was invited to visit the US within barely three weeks of the new administration.

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अमेरिका की परमाणु प्रलय मिसाइल सेंटिनल उड़ा देगी दुश्मन के होश, जल्द बनने वाली है हकीकत, 5500 किमी दूर तक मचाएगी तबाही

Source: Navbharat Times Dt. 08 March 2025,

URL: https://navbharattimes.indiatimes.com/world/america/sentinel-icbm-nuclear-missile-program-a-5500-km-range-us-successfully-did-important-test/articleshow/118806160.cms

अमेरिका अगली पीढ़ी की अत्याधुनिक अंतरमहाद्वीपीय बैलिस्टिक मिसाइल (ICBM) सेंटिनल तैयार करने के करीब पहुंच गया है, जो परमाणु हथियार से तबाही लाने की क्षमता से लैस होगी। अमेरिकी वायुसेना और नॉर्थ्राप ग्रुप्मन कॉरपोरेशन ने हाल ही में मिसाइल के विकास में महत्वपूर्ण परीक्षण आयोजित करने में सफलता हासिल की है। यह परीक्षण मिसाइल कार्यक्रम को उत्पादन और तैनाती के करीब ले जाने में महत्वपूर्ण है। आईसीबीएम के लिए वायु सेना कार्यक्रम अधिकारी ब्रिगेडियर जनरल विलियम रोजर्स ने इस परीक्षण के महत्व पर टिप्पणी की।

परमाणु त्रिकोण का आधुनिकीकरण

जनरल रोजर्स ने कहा, हम अपने परमाणु त्रिकोण का आधुनिकीकरण कर रहे हैं। हालिया परीक्षण पुराने मिनटमैन 3 आईसीबीएम को बदलने के लिए एक व्यापक कार्यक्रम के हिस्से के रूप में महत्वपूर्ण है। सेंटिनल आईसीबीएम का उद्देश्य अमेरिकी परमाणु त्रिकोण के जमीनी हिस्से को बढ़ाना है, जो प्रतिरोधक क्षमताओं को बनाए रखने के लिए महत्वपूर्ण है।

सेंटिनल सिस्टम प्रोग्राम मैनेजर कर्नल अमांडा ओकेसन ने कहा, पूरी टीम इस बात पर ध्यान केंद्रित कर रही है कि यह कार्यक्रम एक बेजोड़ रणनीतिक निवारक प्रदान करने के अपने वादे को पूरा करे। सेंटिनल सिस्टम के 400 मिनटमैन 3 ICBM के मौजूदा बेड़े की जगह लेने की उम्मीद है, जो आधी सदी से भी ज्यादा समय से सेवा में है। मिनटमैन 3 को पहली बार 1970 के दशक की शुरुआत में तैनात किया गया था। इसके कुछ घटकों को अपडेट किया गया है, लेकिन मूल प्रणाली का अधिकांश हिस्सा अभी भी उपयोग में है।

सेंटिनल मिसाइल की रेंज

अमेरिका की नई मिसाइल LGM-35A के बारे में 5500 किलोमीटर से ज्यादा की रेंज होने का दावा किया गया है। इसे भविष्य में एक रणनीतिक प्रतिरोध प्रदान करने के लिए डिजाइन किया गया है। सेंटिनल मिसाइल कार्यक्रम को बढ़ाने के लिए अमेरिकी राज्य यूटा में हिल एयर फ़ोर्स बेस और कई राज्यों में मिसाइल अलर्ट सुविधाओं सहित विभिन्न स्थानों पर रखरखाव और प्रशिक्षण गतिविधियां होंगी।

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Iran, China and Russia launch annual joint naval drills as Trump upends Western alliances

Source: CNN World, Dt. 10 March 2025,
URL: https://edition.cnn.com/2025/03/10/asia/iran-china-russia-joint-navy-drills-intl-hnk/index.html

Warships from Iran, China and Russia kicked off their annual joint exercises in the Gulf of Oman on Monday, showing off their military ties as US President Donald Trump upends longstanding Western alliances.

The “Security Belt-2025” drills, taking place near the Iranian port of Chabahar, is the fifth joint naval exercise Iran, China and Russia have held since 2019, according to Chinese state media.

Analysts have long seen the drills as a demonstration of the growing partnership among the three authoritarian powers as they seek to counterbalance US influence and challenge the Western-led global order.

But this year, the optics are even more pronounced as Trump disrupts the transatlantic alliance – a cornerstone of Western security for decades – by embracing Russia at the expense of Ukraine, and pushes Asian allies to pay more for US protection.

Asked about the drills on Sunday, Trump said he is “not at all” concerned about the show of force by the three US adversaries.

“We’re stronger than all of them. We have more power than all of them,” he told Fox News aboard Air Force One.

Concerns have been mounting in Washington about the emerging strategic partnership among China, Russia, Iran and North Korea, which US lawmakers have described as an “axis of authoritarianism,” “axis of autocrats” and “axis of dictators.” The fear is that a shared animosity toward the US is increasingly driving these countries to work together – amplifying the threat that any one of them alone poses to Washington or its allies, not just in one region but perhaps in multiple parts of the world at the same time. At the same time, Trump has openly embraced Russian counterpart Vladimir Putin in a bid to end the war in Ukraine by talking directly to Moscow while leaving Kyiv and European allies on the sidelines.

Russia and North Korea's military relationship has strengthened considerably over the last year, with the two signing a mutual defense agreement and Pyongyang sending its troops to fight for Moscow in its invasion of Ukraine. The drills also come amid heightened tension between US and Iran.

Since returning to the White House, Trump has restored what he calls his "maximum pressure" campaign on Iran that includes efforts to drive its oil exports down to zero in an attempt to stop Tehran from obtaining a nuclear weapon – a move denounced by Tehran as "bullying" tactics.

The Gulf of Oman is a crucial gateway connecting the Indian Ocean and the Strait of Hormuz, through which more than one-quarter of the world's seaborne traded oil passes.

The US maintains its own significant presence in the region via the Fifth Fleet which is based out of nearby Bahrain. Russia's Defense Ministry said the joint naval exercises will involve 15 combat ships, support vessels and gunboats, as well as helicopters, according to state news agency TASS.

"The Russian side is represented by the Rezky and Russian Hero Aldar Tsydenzhapov corvettes, and the Pechenega tanker of the Pacific Fleet," the ministry is quoted as saying.

China, meanwhile, deployed the Type 052D guided-missile destroyer Baotou and supply ship Gaoyouhu from a nearby naval escort task force to take part in the exercise, the Chinese Defense Ministry said in a statement. The drills, with an aim to "enhance military trust and strengthen practical cooperation," will include simulated strikes on maritime targets, visit-board-search-seizure operations and search and rescue drills, the ministry added.

Iran has sent a stealth missile corvette and a patrol ship, according to Iranian state media.

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IAF's Nuclear-Capable Fighter Bomber Gets 1st Women Fighter Pilot; Set To Roar In Anglo-French Jaguar Aircraft

Source: Eurasian times Dt. 10 March 2025,

URL: https://www.eurasiantimes.com/iaf-inducts-women-fighter-pilot-for-its-nuclear-capable-fighter/

The Indian woman has broken another glass ceiling as the first aviator assigned to fly nuclear-capable low-flying, sea-skimming, deep penetration strike aircraft (DPSA) Jaguar in the Indian Air Force. For a force that inducted the first women fighter pilot in 2016, posting a woman to its aerial strike fleet took quite some time.

This is a significant achievement for women striving for greater parity in combat roles in the armed forces, as the fighter jet is an important pillar of India's nuclear triad. Flying Officer Tanuska Singh will join the 14 Squadron of the IAF, which is based in Ambala and known as the "Bulls."

Women pilots in the USAF have flown nuclear-capable aircraft like the F-15E Strike Eagle and B-2 Spirit. They have also flown combat missions in aircraft like the F-15E Strike Eagle and A-10 Thunderbolt II, including operations in Iraq and Afghanistan.

In the French Air and Space Force women have been trained to operate fighter jets like the Rafale, which can carry nuclear payloads. Royal Air Force (UK) has also commissioned women pilots

who flew aircraft such as the Tornado GR4, which was nuclear-capable, and now operate advanced jets like the Typhoon.

The Squadron has the honor of operating from a captured airfield in erstwhile East Pakistan and wreaking havoc against the Pakistan Air Force (PAF) and Army from their airfield in the 1971 war. It is a feat that has not been accomplished by any modern-day air force since World War II.

The Jaguars were inducted into the IAF in 1979, and their precise navigation, weapon aiming, and attack systems were a quantum leap in the technology existing in the IAF at that time.

What impressed the IAF most about the aircraft was its ability to operate from short, semi-prepared airstrips and the twin-engine, which increased its survivability.

Flying Officer Singh hails from a family serving in the armed forces. She has completed training at the Air Force Academy in Dundigal, Telangana, followed by specialized training on the Hawk MK 132 aircraft.

The IAF currently has 20 women fighter pilots, a number that is expected to grow as the IAF continues to encourage and support women in combat roles. Women fighter pilots in the IAF fly advanced aircraft like the Rafale, Su-30 MKI, MiG-29s, and MiG-21 Bison.

The Rafale fighter jet is not officially part of India's nuclear triad. While it is a highly advanced multi-role fighter jet and technically capable of carrying nuclear weapons, it has not yet been officially designated as part of India's nuclear triad.

The first batch of three female fighter pilots—Avani Chaturvedi, Bhawana Kanth, and Mohana Singh—were inducted into the IAF in 2016. Squadron Leader Mohana Singh later made history as the first female fighter pilot in the country to be cleared to fly the Indigenous Light Combat Aircraft (LCA) Tejas fighter in 2024.

The Jaguar That She Will Be Flying

When Flying Officer Singh joins the squadron, she will fly a Jaguar upgraded to DARIN III (Display Attack and Ranging Inertial Navigation) version.

The Darin III includes an open-system architecture mission computer, multi-functional displays, an engine and flight instrument system, a new fire control radar, a geodetic height correction system, and an inertial navigation system with satellite navigation.

The DARIN III Jaguars have also been equipped with the Israeli EL/M-2052, which improves their defensibility against electronic warfare jamming. By having multiple transceiver modules (TRM), each transmitting on a different radio frequency, the EL/M-2052 also reduces the probability of enemy radar warning receivers.

In other words, the Jaguar DARIN III would be more difficult to detect and jam.

EL/M-2052 is an advanced multi-mode radar capable of air-to-air, air-to-ground, and air-to-sea tracking, targeting, and engagement.

The Jaguars will have the same missiles as the American 5th generation stealth fighter F-35. The IAF is equipping Jaguars with MBDA's Advance Short Range Air-To-Air Missile (ASRAAM). The NGCCM (next-gen close combat missile) will replace the aging Matra R550 Magic on the Jaguar strike aircraft's over-the-wing pylon.

ASRAAM has an imaging infrared (IIR) seeker head that can track and home on a target range inside the line of sight. The missile weighs 88 kg and has a range of more than 25 km.

The IR missiles, also known as fire-and-forget, will enable Jaguars to successfully engage various types of combat aircraft, transport platforms, cruise missiles, and unmanned aerial vehicles.

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Science & Technology News

Minister Dr. Jitendra Singh today discussed India's Pandemic preparedness for future

Minister presented NITI Aayog Report titled "Future Pandemic Preparedness and Emergency Response: A Framework for Action".

The Report outlines the action pathways to deploy medical countermeasures within 100 days of any future pandemic outbreak

Source: Press Information Bureau, Dt. 10 March 2025,
URL: https://pib.gov.in/PressReleasePage.aspx?PRID=2109931

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 today discussed India's Pandemic preparedness for future.

On the occasion, Member NITI Aayog, Dr Vinod Paul presented to the Minister, a Report on the subject prepared by the NITI Aayog and titled "Future Pandemic Preparedness and Emergency Response: A Framework for Action".

The report prepared by an Expert Group constituted by NITI Aayog covers recommendations on future pandemic preparedness with special focus on developing medical countermeasures, specifically, diagnostics, vaccines and therapeutics. It outlines the action pathways to deploy medical countermeasures within 100 days of any future pandemic outbreak. This would require scaling manufacturing capacities, creating forward and backward linkages, enabling regulatory systems and demonstrating capabilities.

The Minister discussed how to mobilize the Research & Development team and Infrastructure along with the Industry to work on potential pathogens and prototype vaccines in a strategic, scientific and proactive way across departments and other stake holders. India's inter-sectoral One Health Mission has already revamped the pandemic surveillance systems for potential outbreaks.

It was noted that in the course of COVID-19 pandemic, India administered more than 220 crore doses of made-in-India vaccines to its citizens, and shared vaccines with more than 100 countries. Indian vaccines utilized practically all the platforms including mRNA, DNA, Adeno-viral and inactivated virus systems. Drugs made in India were exported across the world. Nearly 250 made-in-India COVID-19 diagnostic tests were approved. All this demonstrates our strong Scientific-Industrial potential.

Much of the success during the COVID time, including the Vaccine success story, said Dr Jitendra Singh, was attributable to the coordinated and collective effort across the departments with a "whole of government" approach in the true sense and, personal intervention and patronage of Prime Minister Narendra Modi who launched a dedicated research and trial programme called "Mission Suraksha" and then personally followed it up on day to day basis.

The Minister underlined the nation's resolve that India's deep R&D capacities, and the industrial ecosystem will be further strengthened to be ready to respond to any future pandemic.

The Report has been showcased by the International Pandemic Preparedness Secretariat in its recent "100 Days Mission: Implementation Report 2024".

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Sunita's stellar journey: Extended ISS stay will end with an Atlantic splashdown

Source: The Week Dt. 10 March 2025,
URL: https://www.theweek.in/news/sci-tech/2025/03/10/sunita-williams-stellar-journey-extended-iss-stay-will-end-with-an-atlantic-splashdown-space-nasa.html

Astronauts Sunita Williams and Butch Wilmore are finally returning to Earth after an unexpectedly long stay on the International Space Station (ISS). What was supposed to be a short, ten-day trip in Boeing's Starliner spacecraft turned into an over nine-month mission due to a series of technical problems. The Starliner experienced issues like helium leaks and malfunctions in its propulsion system, forcing NASA to delay the return indefinitely. Nick Hague and Roscosmos cosmonaut Aleksandr Gorbunov, who arrived at the ISS later, will also be returning with Williams and Wilmore on the same SpaceX Crew Dragon spacecraft.

After several delays, NASA has confirmed that Williams and Wilmore will return to Earth on March 16, 2025, aboard the SpaceX Crew Dragon spacecraft. This decision was influenced by the fact that Crew-9 launched with only two astronauts, making it sensible to accommodate Williams and Wilmore for their long-duration mission. The return was initially scheduled for February but was postponed due to logistical adjustments.

Meanwhile, NASA's Crew-10 mission is set to launch on March 12, 2025, from the Kennedy Space Center. This mission will carry NASA astronauts Anne McClain and Nichole Ayers, JAXA's Takuya Onishi, and Roscosmos' Kirill Peskov to the ISS for a long-duration stay. Due to delays in constructing a new Crew Dragon spacecraft, Crew-10 will fly aboard the veteran Endurance capsule. This strategic decision ensures the continuity of ISS operations and research.

Reportedly, the swap comes after public commentary from US President Donald Trump and SpaceX CEO Elon Musk about the stranded astronauts. However, NASA officials maintained that the decision was in motion before the public comments. NASA's Commercial Crew Program manager, Steve Stitch, explained that delays in spacecraft production are common, and the shift to Endurance was finalized in late January. NASA's Crew-9 and Crew-10 missions are part of the Commercial Crew Program using SpaceX's Crew Dragon spacecraft. Crew-9, launched in August 2024, carried NASA's Nick Hague and Roscosmos' Aleksandr Gorbunov, with two empty seats reserved for Wilmore and Williams. Crew-10, launching March 12, 2025, will replace Crew-9 with a six-month stay. It will fly aboard the veteran Dragon Endurance instead of a new spacecraft due to manufacturing delays, ensuring continued ISS operations.

The efforts to expedite Williams and Wilmore's return have been part of NASA's broader commitment to addressing the challenges faced by astronauts in space. Public figures, including US President Donald Trump and SpaceX CEO Elon Musk, have voiced support for accelerating the return process. However, NASA officials emphasize that the decision to utilize the Endurance

capsule was made independently of these public comments, as part of ongoing adjustments to manage delays in spacecraft production.

Experts say that the recent developments highlight the complexities and adaptability required in space missions. “The flexibility shown in accommodating Williams and Wilmore on Crew-9 underscores NASA's ability to adapt to unforeseen circumstances while ensuring the safety and success of its missions. As Williams and Wilmore prepare to conclude their extended stay in space, their experience serves as a testament to the resilience and teamwork that define space exploration,” remarked Srimathy Kesan, founder and CEO of Space Kidz India.

The Crew Dragon spacecraft is slated to splash down in the Atlantic Ocean, specifically off the coast of Florida near Cape Canaveral. This location is chosen for its relatively calm waters and proximity to NASA's recovery teams at Kennedy Space Center.

Safety precautions for the splashdown are extensive. Before reentry, the crew will conduct thorough checks of the spacecraft's systems, including the heat shield and parachutes. Upon reentry, the heat shield will protect the crew from the intense heat generated by atmospheric friction. Once the spacecraft has slowed to a safe speed, the parachutes will deploy, ensuring a gentle landing in the ocean.

NASA Youtube URL Regarding this mission : https://www.youtube.com/watch?v=qGLi-prnxDE&t=3s

Recovery teams will be on standby in boats, ready to retrieve the spacecraft and assist the crew. Medical personnel will be present to conduct immediate health assessments. The spacecraft's location will be closely monitored throughout the descent, and backup recovery teams will be available if needed.

“Using SpaceX's Crew Dragon highlights its reliability and versatility. “This spacecraft has become a vital part of NASA's program for commercial space travel, proving its ability to handle crewed missions and logistical challenges. Its capacity and safety features make it a dependable choice for this return journey,” pointed out space expert Girish Linganna.

Extended periods in microgravity can lead to muscle loss, bone density reduction, and fluid shifts within the body. Williams and Wilmore will undergo thorough medical checkups upon their return to assess their physical and mental well-being, as their mission was prolonged. Hague and Gorbunov will also be checked, but their time was as planned. They may experience difficulties adjusting to Earth's gravity, even with simple tasks. NASA has provided ongoing support and will ensure they receive the necessary medical care after landing.

“The Starliner's technical problems have prompted NASA to reassess its reliance on Boeing's technology. The decision to bring the Starliner back to Earth without a crew in September 2024 was a safety precaution. This situation underscores the importance of having multiple dependable options for crewed space missions. SpaceX's Crew Dragon has proven to be a reliable alternative, strengthening NASA's confidence in its capabilities,” added Linganna.

Throughout their extended stay, NASA has focused on maintaining the astronauts' morale. Williams, Wilmore, Hague, and Gorbunov have remained positive, participating in outreach activities and sharing their experiences. Their dedication to the mission has been evident as they continued to contribute to scientific research and station maintenance.

Williams' and Wilmore's extended stay, and the return of all four astronauts, marks a significant moment for NASA. The careful planning and coordination demonstrate the agency's commitment to astronaut safety during long-duration missions. The successful completion of this mission will highlight human resilience and ingenuity in the face of unexpected challenges.

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Chandrayaan-3 reveals there could be more water on the Moon than we thought

Source: India Today, Dt. 10 March 2025,
URL: https://www.indiatoday.in/science/story/chandrayaan-3-water-on-moon-south-pole-finding-pragyan-vikram-2690427-2025-03-07

Recent findings from India's Chandrayaan-3 mission have significantly expanded our understanding of lunar ice deposits, suggesting that they may be more abundant and accessible than previously thought.

The mission, which successfully landed near the Moon's South Pole on August 23, 2023, has provided crucial temperature data that indicate ice could exist in more locations beneath the lunar surface, particularly at the poles.

The Chandrayaan-3 research team, led by Durga Prasad Karanam from the Physical Research Laboratory in Ahmedabad, has highlighted the role of large-scale, localised temperature variations in ice formation.

These variations are influenced by the Moon's surface properties and solar radiation patterns. The study of ice particles formed under these conditions can offer insights into the Moon's geological history and early geologic processes.

The ChaSTE probe, part of the Chandrayaan-3 mission, measured temperatures from the surface down to a depth of 10 centimeters, revealing highly variable conditions.

Temperatures at the landing site, named 'Shiv Shakti Point,' ranged from 82C during the day to -170C at night.

A model developed by the researchers suggests that lunar surfaces with slopes greater than 14 degrees, facing away from the Sun, could maintain temperatures cool enough for near-surface ice accumulation.

These findings, published in the journal Communications Earth & Environment, are particularly relevant for future missions like NASA's Artemis program, which aims to establish a sustainable human presence on the Moon.

The presence of accessible ice could serve as a vital resource for long-term exploration and potential settlement. However, due to the Moon's ultra-high vacuum environment, ice would sublimate directly into vapor rather than melting into liquid water.

The discovery shows the importance of developing techniques to harvest and utilise lunar ice for future missions. High-latitude areas on the Moon are identified as promising sites for ice deposits, offering fewer technical challenges compared to the poles.

This new understanding of lunar ice distribution could significantly impact the planning and execution of upcoming lunar missions.

India made history when it landed Chandrayaan-3's Vikram lander on the southernmost point of the Moon. It has been hailed as one of the most economical and successful lunar missions undertaken from Earth.

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Chandrayaan-2 makes surprising discovery about the Moon's ionosphere

Source: Deccan Herald, Dt. 10 March 2025,

URL: https://www.deccanherald.com/science/chandrayaan-2-makes-surprising-discovery-about-the-moons-ionosphere-3440650

In a groundbreaking discovery, scientists from the Space Physics Laboratory at Vikram Sarabhai Space Centre (VSSC) have found surprisingly high electron densities in the moon’s atmosphere when it moves into earth’s extended magnetic field, known as the geomagnetic tail. This discovery challenges previous assumptions about how plasma, electrically charged gas, behaves in the lunar environment and is significant for future lunar missions.

The study, based on data from India’s Chandrayaan-2 (CH-2) orbiter, suggests that the moon’s weak magnetic fields, known as crustal magnetic fields, could be playing a much bigger role in trapping plasma than previously thought.
Scientists tracked radio signals sent from Chandrayaan-2 as they passed through the moon’s plasma layer. These signals were received at the Indian Deep Space Network (IDSN) in Bengaluru.

The density of the plasma alters the signal as it passes through it. By analyzing how these signals

changed, scientists calculated that the moon's electron density in this region is around 23,000 electrons per cubic centimeter, nearly 100 times higher than what is found on the sunlit side of the moon.
This was unexpected because, when the moon moves into earth's geomagnetic tail, it is shielded from the solar wind. Scientists had assumed this would lead to lower plasma densities, but the new data shows the opposite.
The research suggests that the moon's crustal magnetic fields may be trapping plasma, preventing it from escaping and creating localized high-density regions. To confirm this, scientists used a special computer model called the 3D Lunar Ionospheric Model (3D-LIM), which showed that these high plasma densities are possible only when crustal magnetic fields are present.

This discovery is crucial for upcoming crewed and robotic lunar missions. High plasma densities can affect radio communication, cause surface charging effects on spacecraft, and interact with lunar dust.

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NASA to introduce microbes to space station after 'too clean" Concerns

Source: The Times of India Dt. 10 March 2025,
URL:https://timesofindia.indiatimes.com/science/nasa-to-introduce-microbes-to-space-station-after-too-clean-concerns/articleshow/118824623.cms

NASA has never been behind when it comes to space exploration, but now the space agency is concentrating on something that no one would have anticipated – cleanliness. The International Space Station, famous for its state-of-the-art research and historic missions, has created a special issue. Its extremely sterile environment, though perfect for experiments, has become "too clean," which could affect the balance of its ecosystem. In a bid to solve this, NASA is pondering adding microbes to the station. This may open a fascinating new era of space science where the smallest living things contribute to the health and functionality of the station. It's a step that may change the way we conceptualize space habitats.

NASA's research shows how over-cleanliness may be affecting astronaut health

NASA's latest study, published in the journal Cell, finds that over-sanitizing on the International Space Station (ISS) could be responsible for health problems among astronauts, including skin rashes and immune system disturbances. The research, conducted by scientists at UC San Diego, discovered that the ISS does not have the natural microbes that humans are regularly exposed to on Earth. These microbes are important for having a healthy immune system. By repeatedly cleaning the station, many helpful microbes are killed, leaving astronauts with fewer microbes to assist in immune well-being. NASA is considering adding controlled microbes to space stations in an attempt to enhance astronauts' health while they're in long-duration spaceflight.

NASA plans to enhance space stations with microbial diversity for better health

NASA is looking at adding microbial diversity to space stations in the future to enhance the health of astronauts. The study finds that the high level of sanitation on the ISS leads to a deficiency of natural microbes, which are necessary for the health of the immune system. When the astronauts

are not exposed to these helpful microbes, they are more susceptible to skin irritation, inflammation, and other ailments. Researchers think adding specifically chosen microbes might replicate the natural microbial world of Earth, allowing astronauts to sustain a healthy immune response. This practice might revolutionize the design of future space habitats to be more health-friendly to astronauts for longer missions.

NASA seeks to mimic Earth's environment in space by adding microbes to stations

NASA is considering the possibility of adding certain microbes to space stations as an attempt to enhance astronaut health. Studies have revealed that the highly sterilized space aboard the International Space Station (ISS) misses the microbia diversity that human beings require for a healthy immune system. Through the introduction of selected microbes, NASA hopes to make the environment for astronauts more natural, lowering the chances of skin irritation, immune system disorders, and other medical problems. The new strategy would involve the development of helpful microbes to enhance the health of astronauts, bringing space habitats closer to the Earth's environment. Such a strategy might be important for extended space missions to the Moon, Mars, and other destinations.

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