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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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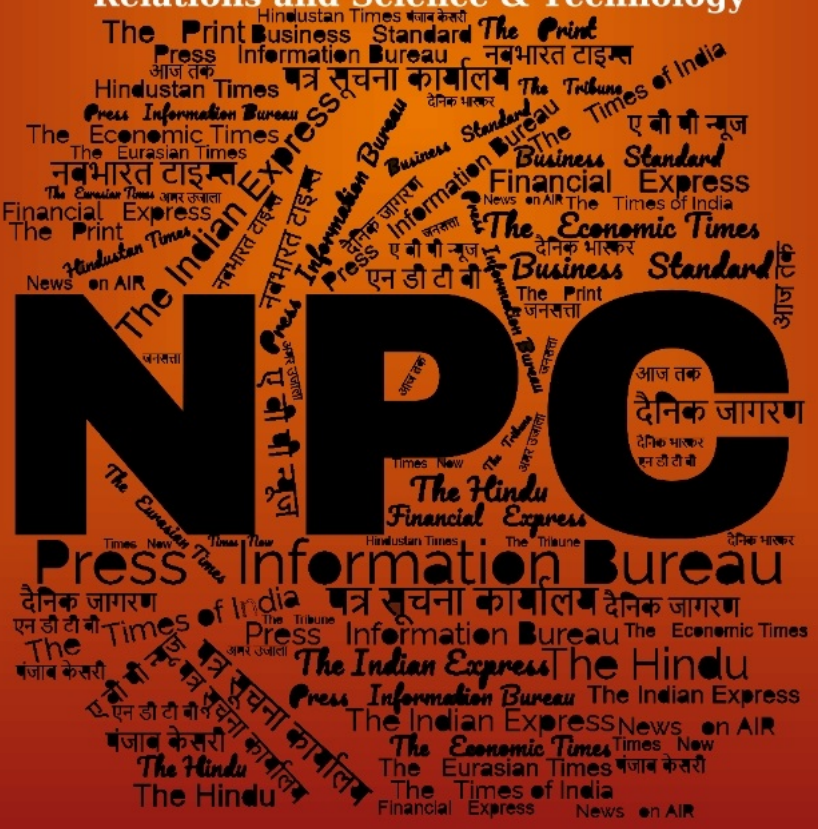

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Mon, 06 Jan 2025

The Runway to a Billion Opportunities: Aero India 2025 to be held in Bengaluru from February 10 to 14

This 15th edition of Asia's biggest aero show to forge new partnerships & explore avenues to fast-track indigenisation process

Defence Ministers' Conclave, CEOs' Round-Table, Manthan start-up event, breath-taking air shows & a display of indigenous manufacturing capabilities among the major events planned

The 15th edition of Asia's biggest aero show - Aero India 2025 - will be held at the Air Force Station, Yelahanka in Bengaluru, Karnataka from February 10 to 14, 2025. With the broad theme 'The Runway to a Billion Opportunities', the event will provide a platform for forging partnerships between foreign & Indian firms and the discovery of newer avenues in the global value chain to accelerate the indigenisation process.

The first three days of the event (February 10th, 11th & 12th) will be business days, while 13th & 14th have been set as public days to allow people to witness the show. The event includes both air displays and static exhibitions of a large array of military platforms from the aerospace sector.

The event comprises a curtain raiser event, inaugural event, Defence Ministers' Conclave, CEOs' Round-Table, Manthan start-up event, breath-taking air shows, a large exhibition area comprising India Pavilion and a trade fair of aerospace companies.

To facilitate dialogue towards strategic partnership with friendly countries, India will host the Defence Ministers' Conclave on the theme 'BRIDGE -Building Resilience through International Defence and Global Engagement'. It encapsulates the dynamic geopolitical conditions and the path to mutual prosperity, which can be BRIDGED through cooperation among nations with shared vision of security and development.

A number of bilateral meetings are planned at the levels of Raksha Mantri, Raksha Rajya Mantri, Chief of Defence Staff and Secretary among others on the sidelines of the event. The focus will be on bolstering the defence and aerospace ties with friendly countries by exploring newer avenues to take the partnership to the next level.

The CEOs' Round-Table is expected to provide a favourable platform to foreign Original Equipment Manufacturers (OEMs) for manufacturing in India. Global CEOs, CMDs of domestic PSUs and premier private defence & aerospace manufacturing companies from India will be participating in the event.

The India Pavilion will showcase India's commitment to its Make-in-India initiative by showcasing indigenous defence manufacturing capabilities and cutting-edge technologies ready for the global stage, including the future prospects. Promotion of Indian start-ups is a focus area at Aero India 2025 and a wide spectrum of state-of-the-art technologies/products developed by them will be showcased at an exclusive iDEX pavilion.

In addition, dynamic aerobatic displays and live technology demonstrations will provide an immersive experience, showcasing the potential of modern aerospace platforms and technologies. A number of seminars on various important themes are also planned as part of the event.

Aero India has already carved a niche for itself globally as a premier aerospace exhibition with 14 successful editions organised since 1996 in Bengaluru. The last edition achieved remarkable milestones as it attracted over seven lakh visitors, dignitaries from 98 countries and 809 exhibitors including businesses, investors, start-ups & MSMEs. Over 250 partnerships, including 201 MoUs, major announcements, product launches and technology transfers worth more than Rs 75,000 crore, were witnessed. The 2025 edition aims to surpass these achievements, and promises to be even bigger in scope and grandeur.

https://pib.gov.in/PressReleasePage.aspx?PRID=2090516

Press Information Bureau
Government of India

Ministry of Defence

Mon, 06 Jan 2025

Two Fast Patrol Vessels constructed by GSL for Indian Coast Guard launched in the presence of Secretary (Defence Production) in Goa

Two Fast Patrol Vessels (FPVs) - Amulya and Akshay - indigenously designed and constructed by the Goa Shipyard Limited (GSL) for the Indian Coast Guard (ICG) were launched in the presence of Secretary (Defence Production) Shri Sanjeev Kumar in Goa on January 05, 2025. The two FPVs are the third and fourth vessels of the fleet of eight FPVs being constructed by GSL for ICG,

underscoring the shipyard's pivotal role in realising the vision of Aatmanirbharta in defence production.

In his address, the Secretary (Defence Production) lauded the enduring collaboration between ICG and GSL, stating that the launch epitomises the resilience and ingenuity of the shipyard, achieved in close collaboration with Indian industry. The indigenous content of these vessels is a proud reflection of the Aatmanirbhar Bharat initiative, he said.

The Chief Guest praised GSL's team for ensuring that ICG's shipbuilding needs are met through indigenous efforts. He commended the shipyard's workforce for achieving this milestone despite challenges, urged all to continue the journey towards self-reliance in defence production with undeterred focus and commitment.

Speaking at the occasion, CMD, GSL Shri Brajesh Kumar Upadhyay highlighted the shipyard's impressive growth trajectory, which has seen a remarkable 100% increase in Gross Revenue, crossing the Rs 2,000 crore threshold. Senior officials of ICG, GSL and key stakeholders from the defence and maritime communities were present on the occasion.

The first two FPVs of the same series - Adamya and Akshar – were launched in October 2024. The contract was concluded in March 2022 for Rs 473 crore. With over 60% indigenous content, these state-of-the-art FPVs are designed in-house by GSL to meet ICG's specific operational needs. With a length of 52 meters and a displacement of 320 tonnes, these vessels will strengthen ICG in protecting offshore assets and island territories. Its primary role will be fisheries protection and monitoring island territories, exclusively economic zone and coastal patrol. Vessels shall also perform anti-smuggling, anti-piracy and search & rescue operations.

For the first time in GSL's history, the vessels are being launched simultaneously using the shipyard's state-of-the-art ship-lift system, a transformative feat that underscores GSL's modernisation efforts. Also, this is the first time in India that a Fast Patrol Vessel is being built with controllable pitch propeller. This project is also a substantial contributor to local economic prosperity, driving employment and growth within the ecosystem of MSMEs and local industries supporting GSL.

https://pib.gov.in/PressReleasePage.aspx?PRID=2090640

THE ECONOMIC TIMES

Mon, 06 Jan 2025

India-US strategic partnership scaled new heights: PM Modi

The India-US comprehensive global strategic partnership has scaled new heights, including in areas of technology and defence, Prime Minister Narendra Modi said on Monday after US National Security Advisor Jake Sullivan met him. Sullivan is on a visit to India two weeks ahead of Donald Trump's inauguration as the 47th President of the US.

"The India-US Comprehensive Global Strategic Partnership has scaled new heights, including in the areas of technology, defence, space, biotechnology and Artificial Intelligence," he said.

"Look forward to building upon this momentum in ties between our two democracies for the benefit of our people and global good," Modi added.

Sullivan held wide-ranging talks with his Indian counterpart Ajit Doval and External Affairs Minister S Jaishankar. The implementation of the US-India Initiative on Critical and Emerging Technology or iCET figured in the two meetings.

The iCET was launched by Prime Minister Narendra Modi and US President Joe Biden in May 2022 with an aim to forge greater collaboration between India and the US in areas of critical technologies.

Last year, the two sides unveiled a raft of transformative initiatives to deepen India-US cooperation in areas of semiconductor, critical minerals, advanced telecommunication and defence space.

Sullivan's trip comes days after External Affairs Minister S Jaishankar concluded a six-day visit to the US.

https://economictimes.indiatimes.com/news/defence/india-us-strategic-partnership-scaled-new-heights-pm-modi/articleshow/117000815.cms

THE ECONOMIC TIMES

Mon, 06 Jan 2025

Fencing fast-tracked along India-Myanmar border in Manipur

Fencing work along the Indo-Myanmar border in Manipur has gathered pace as part of India's efforts to find a permanent solution to the influx of illegal immigrants from the neighbouring country embroiled in a complex civil conflict.

Manipur shares 398 km of India's international border with Myanmar and the Border Roads Organisation (BRO) has commenced fencing work in the general area of Moreh in the state's Tengnoupal district, a person in the know said. This is being done under 'Project Sewak', BRO's project for the development and maintenance of roads in Nagaland and Manipur. Currently, only 10 km of border in Manipur is fenced.

India is erecting barriers along the 1,643-km Indo-Myanmar border at a cost of ₹31,000 crore. Union home minister Amit Shah recently said the demographic data of people along the India-Myanmar border, especially in Nagaland, Mizoram and Manipur, should be mapped as it would help in stopping infiltration.

Restrictions for foreigners

The Manipur government recently said that in view of the growing security concerns arising out of influx from neighbouring countries, the Union Ministry of Home Affairs (MHA) has reimposed the Protected Area Regime in the state as well as neighbouring Mizoram and Nagaland.

Under this, movement of foreigners visiting Manipur would be closely monitored. To visit the state, they need to obtain special permits under the Foreigners (Protected Areas) Order, 1958, according to the Manipur government.

In August, Manipur CM N Biren Singh said authorities had detected 10,675 illegal immigrants in the state in five years. These illegal immigrants were from countries like Myanmar, Bangladesh, Norway, China and Nepal and 85 of them were deported, he had told the state assembly. The CM stated a panel had been constituted to identify illegal immigrants from Myanmar in Churachandpur, Chandel, Tengnoupal, Kamjong and Pherzawl districts.

He also said MHA had recommended to the foreign ministry to completely scrap the free movement regime in the state. The state would establish six new police stations and 34 police outposts in the border areas, he had said.

Meanwhile, Mizoram and Nagaland assemblies have adopted resolutions against fencing the border with Myanmar and move to abolish the free movement regime. Several organisations in northeast India are also opposing the border fencing move.

Continuing ethnic violence

The Manipur government's security advisor, Kuldiep Singh, recently said that 258 people, including militants, were killed in ethnic violence and related incidents that started in the state on May 3, 2023.

https://economictimes.indiatimes.com/news/defence/fencing-fast-tracked-along-india-myanmar-border-in-manipur/articleshow/117002346.cms

FINANCIAL EXPRESS
Read to Lead

Mon, 06 Jan 2025

US-India Nuclear Deal: Jake Sullivan signals major progress in Civil Nuclear Cooperation

US National Security Advisor Jake Sullivan’s farewell visit to New Delhi is an important moment for US-India relations, with substantial advancements on the horizon in civil nuclear cooperation. Sullivan announced that the United States is finalizing steps to remove long-standing regulatory barriers that have hindered collaboration between American nuclear companies and India’s leading energy institutions. This marks a significant breakthrough in a partnership that has been decades in the making.

The Road to Civil Nuclear Cooperation

The civil nuclear cooperation between India and the US, initially set in motion with the 2005 nuclear deal under President George W. Bush, has faced numerous challenges over the years. As reported previously by FinancialExpress.com, one of the main sticking points has been India's nuclear liability laws, which stipulate that Indian operator, rather than plant manufacturers, are responsible for the financial fallout in case of an accident. This created apprehension among potential foreign suppliers, delaying India's ambitious nuclear energy plans.

However, during his visit to India today (January 6, 2025), Sullivan confirmed that the US is on the verge of resolving these obstacles. "The United States is now finalizing the necessary steps to remove long-standing regulations that have prevented civil nuclear cooperation between India's leading nuclear entities and US companies," he declared. With this announcement, both countries are moving closer to formalizing agreements that will facilitate the transfer of US nuclear technology to India, which is eager to expand its clean energy capacity.

Key Engagements in New Delhi

Sullivan's visit wasn't just about nuclear issues. His address at the Indian Institute of Technology (IIT) Delhi on January 6 served as a platform to underscore the growing importance of the US-India collaboration, especially in critical technologies. The ongoing partnership under the US-India Initiative on Critical and Emerging Technologies (iCET) has focused on cutting-edge fields like artificial intelligence, quantum computing, space, and defence.

He highlighted the potential of the India-US relationship, particularly in the context of the Indo-Pacific region. "Our relationship with India is crucial for peace and stability in the Indo-Pacific," he stated, stressing the importance of these two democracies working together to maintain a free and open region in the face of rising global challenges, especially from China. Furthermore, he pointed to the role of Indian innovators in shaping the future of technology. He celebrated the success of iCET, an initiative that fosters cooperation between the two nations in emerging fields. "Advanced technologies of the future should drive our partnership forward, shaping a better world for everyone," he noted.

High-Level Talks with Jaishankar and Doval

In addition to his speech at IIT Delhi, Sullivan held discussions with key Indian leaders, including External Affairs Minister S Jaishankar and National Security Advisor Ajit Doval. These talks centered on strengthening bilateral relations and expanding cooperation on regional and global issues.

Jaishankar took to social media to highlight the significance of his meeting with Sullivan, appreciating the NSA's "personal contribution" in bolstering US-India ties over the past four years. "We continued our ongoing discussions on deepening bilateral, regional, and global cooperation," Jaishankar wrote, reflecting the warmth and mutual respect that has characterized the growing diplomatic engagement between the two countries.

His meeting with NSA Ajit Doval also focused on shared security priorities, particularly in the Indo-Pacific region. The two discussed a range of issues, from defence cooperation to space and technology collaboration. Sullivan's recognition of Doval's role in strengthening the India-US partnership was particularly notable. He praised Doval for his vision in making iCET a success,

stating, “iCET is truly a people’s initiative, but in many ways, it owes its success to one man—Ajit Doval.”

The Path Forward: What’s Next for US-India Relations?

His remarks and engagements have set the stage for a new chapter in US-India cooperation. The removal of regulatory barriers to civil nuclear collaboration will open the door for significant progress in India’s nuclear energy sector. If all goes according to plan, the United States could soon supply nuclear reactors and technology to India, helping the country meet its ambitious energy targets while promoting clean energy initiatives.

Beyond the nuclear deal, the iCET initiative holds immense promise for the future of US-India ties. As both countries continue to collaborate on emerging technologies, they are not only strengthening their economic and strategic partnership but also shaping the global technological landscape for the years to come. With both nations committed to pushing the boundaries of innovation and addressing global security challenges, the US-India alliance is poised to play a central role in shaping the 21st-century geopolitical order.

https://www.financialexpress.com/business/defence-us-india-nuclear-deal-jake-sullivan-signals-major-progress-in-civil-nuclear-cooperation-3708545/

india.com

Mon, 06 Jan 2025

Army, Navy and Air Force…Pakistan is rapidly upgrading its forces by…., India is the only target

Pakistan is rapidly modernizing its armed forces notwithstanding its weak economy. From the Navy to the Air Force and the Army, the modernization programme is going on at a rapid pace. Pakistan wants to create an army that can compete with India. Pakistan has fought four wars with India since independence and has lost each time. In 1971, it had to lose East Pakistan, during which the surrender of the Pakistani army set a record for the highest number of troops that gave up their arms.

Pakistani Navy

Pakistan plans to transform its Navy into a 50-ship force over the next decade, including 20 frontline warships. The expansion of the Pakistani naval fleet hinges on partnerships with China, Turkey and Romania. Pakistan has undertaken the modernization of its fleet with foreign shipbuilders such as Damen Shipyard in Romania for offshore patrol vessels. It is going to buy advanced Hangor-class submarines from China, Milgem-class corvettes from Turkey and for the first time indigenous Jinnah-class frigates.

Pakistani Army

The Pakistan Army spends the largest part of the defence budget. Apart from this, a large part of the income from the businesses run by the army is also being spent on modernization. Pakistan

bought VT-4 tanks from China a few years ago. Apart from this, it has purchased missiles from China and Reconnaissance drones from Turkey. The Pakistan Army is also strengthening its bilateral ties with Russia.

Pakistani Air Force

According to a report by the South China Morning Post, Pakistan is reportedly planning to buy 40 Chinese J-35 stealth fighter jets. It is considered to be a major boost for Pakistan's air capability. The J-35 is a fifth-generation stealth fighter jet developed by China's Shenyang Aircraft Corporation. The aircraft are aimed at replacing Pakistan's ageing fleet of American F-16 and French Mirage fighter jets.

Pakistan-China Partnership

Pakistan and China have a close relationship. The ties between Islamabad and Beijing are defined as "higher than mountains and deeper than oceans". China has assisted in the modernization of both the Pakistani Air Force and Naval Forces.

Pakistan's Defence Diplomacy

In addition to modernization, Pakistan has been actively involved in international naval exercises. In February this year, Pakistan will host the 9th AMAN-25 naval exercise off the coast of Karachi. In 2023, ships from China, Indonesia, Italy, Japan, Malaysia, Sri Lanka, and the US participated in the exercise. Its purpose is to showcase Pakistan's naval strength in the Indian Ocean.

Missile programme and sanctions

Pakistan plans to modernise and improve its missile programme which has caused concern not only in the region but also in Washington. The United States has imposed several sanctions on entities involved in Pakistan's long-range ballistic missile programme, targeting both Pakistani and Chinese companies. The US has expressed apprehension that Pakistan's missile programme poses a direct threat to it. However, Pakistan has denied the charges.

https://www.india.com/news/india/army-navy-air-force-pakistan-rapidly-upgrading-its-forces-by-india-only-target-china-turkey-russia-j35-stealth-fighter-jets-usa-7518548/

Mon, 06 Jan 2025

माउंटेन टैंक जोरावर का दूसरा प्रोटोटाइप बनना शुरू, युद्ध क्षेत्र की चुनौतियों से पाएगा पार

लार्सन एंड टुब्रो ने डीआरडीओ के सहयोग से जोरावर लाइट टैंक का दूसरा प्रोटोटाइप तैयार करने का निर्माण कार्य शुरू कर दिया है. यह कदम भारत की स्वदेशी रक्षा क्षमताओं में एक महत्वपूर्ण कदम है. जोरावर भारत का पहला हल्का टैंक है जिसे ऊंचाई वाले इलाकों में तैनात करने के लिए डिजाइन किया गया है. इस बीच, भारतीय सेना

पहले प्रोटोटाइप के व्यापक टेस्ट की तैयारी कर रही है, जिसे खासतौर पर ऊंचाई वाले युद्धक्षेत्र और कठिन भूभागों (Difficult Terrains) में ऑपरेशन के लिए डिजाइन किया गया है.

सूत्रों से मिली जानकारी के अनुसार, पहले प्रोटोटाइप का निर्माण पूरा हो चुका है और जल्द ही यह भारतीय सेना के कठोर परीक्षणों से गुजरेगा. इन टेस्ट में टैंक के प्रदर्शन को विभिन्न जलवायु और भू–भाग स्थितियों, खासकर लद्दाख जैसे ऊंचाई वाले क्षेत्रों में परखा जाएगा. हालांकि, इससे पहले खुद लार्सन एंड टुब्रो और डीआरडीओ ने भारत की तमाम भौगोलिक स्थिति और बॉर्डर एरिया में जोरावर टैंक के टेस्ट किए हैं. वहीं दूसरे प्रोटोटाइप का निर्माण इस परियोजना की विकास प्रक्रिया को तेज करने की दिशा में एक अहम कदम है. इससे सेना को टैंक के डिजाइन में सुधार करने और पहले प्रोटोटाइप से मिले फीडबैक के आधार पर बदलाव करने का अवसर मिलेगा.

जोरावर टैंक की ताकत

भारतीय सेना ने इस टैंक के 354 यूनिट्स को शामिल करने की योजना बनाई है, जो ऊबड़–खाबड़ और ऊंचाई वाले क्षेत्रों में पारंपरिक भारी टैंकों की चुनौतियों को ध्यान में रखते हुए डिजाइन किए गए हैं. ये टैंक पिछले टैंकों के मुकाबले में काफी हल्के और ऑपरेशनल फ्रेंडली हैं. जोरावर लाइट टैंक का पहला प्रोटोटाइप जुलाई 2024 में एलएंडटी के हजीरा मैन्युफैक्चरिंग डिवीजन में पेश किया गया था. यह जोरावर टैंक प्रोजेक्ट की स्वीकृति के सिर्फ 19 महीनों के अंदर तैयार किया गया. टैंक ने प्रारंभिक ऑटोमोटिव परीक्षणों को सफलतापूर्वक पूरा किया है, जिसमें बीकानेर के पास महाजन फील्ड फायरिंग रेंज में रेगिस्तानी परीक्षण और लद्दाख की बर्फीली चोटियों में फायरिंग शामिल हैं.

कुल मिलाकर अब ये कहा जा सकता है कि जोरावर टैंक अब भारतीय सेना की अग्निपरीक्षा से गुजरने के लिए तैयार है. इन परीक्षणों में विभिन्न जलवायु और भूभाग स्थितियों का आकलन किया जाएगा, जिसमें लद्दाख में ऊंचाई वाले क्षेत्रों में टेस्ट करना भी शामिल हैं.

जोरावर लाइट टैंक को गतिशीलता (Mobility), मारक क्षमता (Firepower) और सुरक्षा पर ध्यान केंद्रित करके डिजाइन किया गया है. लगभग 25 टन वजनी यह टैंक हाई पावर–टू–वेट अनुपात के साथ आता है, जो इसे वायु, रेल और सड़क परिवहन के लिए आदर्श बनाता है. यानी इसका ट्रांसपोर्टेशन और किसी भी लोकेशन पर डिप्लॉयमेंट काफी आसान होगा.

झेलेगा युद्ध क्षेत्र की चुनौती

दिसंबर के महीने में भारत के स्वदेशी जोरावर लाइट टैंक का लद्दाख में ऊंचाई वाले क्षेत्रों में टेस्ट पूरा किया गया है. जोरावर टैंक को चीन की तैनाती का मुकाबला करने के लिए डिजाइन किया गया है. जोरावर टैंक का निर्माण DRDO और L&T ने LAC यानी कि वास्तविक नियंत्रण रेखा के पास तैनात चीनी ZTQ –15 ब्लैक पैंथर टैंकों को धूल चटाने के लिए किया है. चीन ने LAC के पास अपनी तरफ हल्के टैंक तैनात कर रखे हैं. उनका मुंहतोड़ जवाब देने के लिए भारतीय सेना को जोरावर जैसे तेज–तर्रार हथियार की जरूरत है. जो लेजर, मशीन गन, एंटी–टैंक गाइडेड मिसाइल जैसे हथियारों से लैस है.

इस स्वदेशी हल्के लड़ाकू टैंक को जनरल जोरावर सिंह कहलूरिया के नाम पर रखा गया है. वही जनरल जोरावर सिंह कहलूरिया जिन्होंने लद्दाख, तिब्बत और गिलगित बाल्टिस्तान पर जीत हासिल की थी. जोरावर सिंह के नेतृत्व में डोगराओं ने 1834 में लद्दाख पर हमला किया था और अपने पराक्रम से दुश्मन के दांत खट्टे कर दिए थे.

जोरावर के बारे में अहम जानकारी

1. डीआरडीओ ने तैयार किया है माउंटेन टैंक 'जोरावर'
2. यह टैंक 25 टन वजनी है, जो भारत के मौजूदा टैंकों के वजन का आधा है.
3. इसमें 105 मिमी या उससे ज्यादा कैलिबर की गन लगी है.
4. इसमें मॉड्यूलर एक्सप्लोसिव रिएक्टिव आर्मर और एक्टिव प्रोटेक्शन सिस्टम है.
5. इसमें एंटी–एयरक्राफ्ट गन, ड्रोन इंटीग्रेशन, और आर्टिफिशियल इंटेलिजेंस जैसी तकनीकें भी हैं.
6. इसे विमान से भी पहुंचाया जा सकता है.
7. इसे चलाने के लिए सिर्फ तीन लोगों की जरूरत होती है.

https://www.tv9hindi.com/india/zorawar-light-tank-second-prototype-army-trials-of-first-prototype-drdo-3043171.html

#SWARAJYA

Mon, 06 Jan 2025

Indian Air Force Grapples With Combat Pilot Shortages And Aging Training Infrastructure: CAG Report

The Indian Air Force (IAF) is grappling with a shortage of fighter pilots, a problem compounded by inadequate training resources.

The Comptroller and Auditor General (CAG) report tabled during the winter session highlights a persistent decline in IAF's pilot strength.

In 2015, the IAF identified a shortage of 486 pilots. However, between 2016 and 2021, the planned annual intake of 222 trainees fell short of target, with actual intakes ranging between 158 and 204 trainees.

"The annual intake after wastage ranged between 124 to 167," the report said.

As a result, "the shortage of pilots rose from 486 to 596 which was expected to be filled up between January 2021 and January 2030," it added, *The New Indian Express* reported.

Challenges in Pilot Training

The CAG's Report on Training of Pilots in the Indian Air Force reveals significant deficiencies in the training infrastructure.

The Performance Audit was conducted during the period January 2022 to May 2022 and covered the three stages of training; Stage I (Basic), Stage II (Intermediate) and Stage III (Applied)

imparted by the Flying Training Establishments (FTEs) and the training of Navigators at the Navigation Training School (NTS) during the period 2016 to 2021.

Pilots across all three training stages—Basic, Intermediate, and Applied—are trained on old aircraft, undermining their preparation for modern combat scenarios.

Basic Trainer Aircraft: Induction of 106 Basic Trainer Aircraft (BTA), which were to be indigenously developed by Hindustan Aeronautics Limited (HAL), was delayed due to issues with design and certification.

- Intermediate Jet Trainers: Plans to induct 73 Intermediate Jet Trainers (IJT) also faced delays, further exacerbating training gaps.
- Helicopter Training: Helicopter pilots are trained on the ageing Chetak helicopters, which were inducted more than 50 years ago.

Delay in Modernisation

The report underscores that delays in procuring new trainer aircraft have hindered efforts to modernise the IAF's training infrastructure.

The audit findings about Trainer Aircraft said had stated in March 2013 that action was on hand to procure 296 aircrafts by 2016 and IAF would have sufficient resources to train its pilots till 2036.

Comparative Disadvantage

The delay in modernisation, particularly in force multipliers, places the IAF at a disadvantage when compared to Pakistan and China's air forces, both of which have made significant advancements in their combat capabilities and pilot training programmes.

https://swarajyamag.com/news-brief/indian-air-force-grapples-with-combat-pilot-shortages-and-aging-training-infrastructure-cag-report

The EurAsian Times

Mon, 06 Jan 2025

A Sobbing Story Of Indian Military! More Soldiers Lost In Peacetime Than In Combat; CRPF Records Massive No. Of 'Unnatural Deaths'

Last month, in a Lok Sabha Q&A session in India, Adv. Dean Kuriakose, member of parliament representing Idukki, Kerala, asked "whether the government is aware" of the study in August 2023 regarding "stress factors" affecting troops and their families. On Dec 20, 2024, while addressing the query, the Ministry of Defense stopped short of confirming widespread mental stress among troops but outlined a series of measures being implemented to tackle the issue.

The Ministry of Defense stated that, as part of the Wellness Enabling Campaign, a team of experts, including members from the Discipline and Vigilance Directorate, specialists from the Directorate General of Medical Services (Army), scientists from the Defence Institute of Psychological Research (DIPR), and psychological counselors, visited 12 military stations between August and December 2023.

During these visits, they engaged with officers, junior commissioned officers, other ranks, and their families to "identify" mental health challenges and recommend strategies to enhance mental resilience. As part of the initiative, the team gathered data from 2,500 military personnel through questionnaires, open forums, focused group discussions, and one-on-one interactions.

The Defence Institute of Psychological Research (DIPR) designed specialized tests, and the psychometric assessment platform 'Disha Kiran,' a multilingual tool, was used to screen personnel at risk. Notably, the Army's advisory issued in August 2023 emphasized that this study was a critical step in addressing "stress and psychological issues and reduce suicides and fratricides in the force".

Another question raised by Member of Parliament Dharambir Singh was, "Is the government aware of cases involving humiliation and physical coercion against junior officers by seniors (during 2023-24)?

In response, the Ministry of Defense acknowledged the issue, stating, "Yes, Sir. A few complaints were received during the period."

The Numbers Tell A Sobbing Story

Behind the stoic faces of India's military personnel lies a battle that rarely makes headlines – the fight for mental well-being. In 2022, the Minister of State for Defence informed the Rajya Sabha that 819 suicides occurred across the armed forces over the preceding five years—642 in the Army, 29 in the Navy, and 148 in the Air Force.

Media reports suggest that the Army loses more personnel annually to suicides, fratricide, and other non-combat incidents than to combat operations. It is important to note that updated data on suicides within the armed forces is not consistently released by the services or the Ministry of Defense.

High Suicide Rate In Paramilitary Forces

Data presented by the Ministry of Home Affairs (MHA) to Parliament in August 2023 revealed a grim statistic: since 2011, 1,532 personnel from the Central Armed Police Forces (CAPF) have died by suicide. These forces, collectively comprising around 900,000 personnel, face unique challenges that often go unaddressed.

Central Armed Police Forces (CAPF), includes Central Reserve Police Force (CRPF), Border Security Force (BSF), Assam Rifles (AR), Central Industrial Security Force (CISF) Indo-Tibetan Border Police (ITBP), National Security Guard (NSG) and Sashastra Seema Bal (SSB).

Notably, the highest number of suicides among paramilitary personnel has been reported in the CRPF. The Central Armed Police Forces face unique challenges. Despite their crucial role alongside the Indian Army, especially in conflict zones, they often feel like second-class citizens in

the security apparatus. The government's reluctance to officially recognize the CAPF as part of the armed forces contributes to a perception of being "less privileged."

Key Factors Behind Suicides

Studies by the Defence Institute of Psychological Research (DIPR) have identified delayed or denied leave as a key stress factor contributing to suicidal behavior among armed forces personnel. In 2021, a task force headed by V. S. K. Kaumudi was established by the Ministry of Home Affairs to examine incidents of suicides and fratricides and develop a comprehensive report.

The task force focused on suicide and fratricide cases within the Central Armed Police Forces (CAPFs) and submitted its draft findings to the Ministry of Home Affairs. The task force identified three primary factors contributing to suicides and fratricides: service conditions, working conditions, and personal or individual issues. Under service conditions, it also pinpointed the lack of timely leave as a major trigger.

The report outlined several other critical reasons behind suicides, including extended working hours, insufficient rest and recreational time, low job satisfaction compared to other sectors, a sense of isolation, lack of social and familial support, and a weak grievance redressal system. Additional factors contributing to the distress included discrimination among sub-groups, workplace bullying, fear of disciplinary or legal action, and poor communication between company commanders and jawans, along with frequent transfers.

Human Cost Of The Crisis

The following cases, reported in the media, highlight the troubling trend of suicides, fratricide, and non-combat fatalities within the armed forces. However, it's important to note that many such incidents remain out of the public eye due to the military's often close-knit and confidential working environment. November 2024: A CRPF jawan allegedly committed suicide by shooting himself with his service rifle at a camp in the Shivpora, Srinagar.

October 2024: A couple serving in the armed forces—a husband, an Indian Air Force (IAF) flight lieutenant, and his wife, an Army captain—allegedly died by suicide on the same day. The husband was in Agra while the wife was visiting Delhi. She left a suicide note requesting a joint cremation with her husband.

July 2024: A 22-year-old IAF Agniveer reportedly died by suicide in Agra. This incident raised the number of Agniveer deaths since 2023 to around 20. Reports suggest the first Agniveer death was also a suicide, where the individual did not receive a military funeral due to protocol.

October 2023: A Major-ranked officer in Jammu and Kashmir's Rajouri district opened fire on colleagues and subordinates in Thanamandi.

October 2023: An Indian Army Agniveer, Amritpal Singh, died by suicide by shooting himself while on sentry duty.

July 2023: A 19-year-old Indian Navy sailor was found hanging on board the aircraft carrier INS Vikrant.

April 2023: An Army soldier fatally shot four of his fellow colleagues from an artillery unit at Bathinda military station.

June 2022: A 44-year-old Navy officer was discovered hanging in the bathroom of a naval hospital in Kochi.

July 2021: A 19-year-old Navy sailor was found dead with a bullet wound at the C2 watchtower in Katribargh. The shot was fired from his service rifle at point-blank range.

These cases underline the urgent need to address the mental health challenges and stress factors within the armed forces.

Stress Among Troops In Peacetime

Stress among troops, even in peaceful times or less volatile environments, has become a significant concern. Various reports point to systemic factors as key drivers of the stress that leads soldiers to suicide. The troubling statistic of nearly 100 security personnel taking their own lives each year underscores a growing crisis within the country's armed forces. These numbers highlight not only the mental health challenges soldiers face but also raise questions about the effectiveness of their training and overall well-being.

The question remains: In a force trained to protect others, how can we better protect the protectors?

As India continues to strengthen its military capabilities, the mental resilience of its personnel must become a paramount concern. After all, the nation's security depends not just on weapons and training but on the well-being of the individuals who stand guard over its borders. Recognizing the challenges faced by the armed forces is a crucial first step for the government.

https://www.eurasiantimes.com/a-sobbing-story-of-indian-military-more-soldiers/

Science & Technology News

Press Information Bureau
Government of India

Ministry of Science & Technology

Mon, 06 Jan 2025

Nascent galaxy discovered in formation at the end of the longest tidal tail of NGC 3785 galaxy

About 430 million light years from Earth, in the Leo constellation, a new ultra-diffuse galaxy has been discovered to be under formation at the end of the tidal tail, a long, thin stream of stars and interstellar gas, of galaxy NGC 3785. The discovery of the galaxy formation, driven probably by

the gravitational interaction between NGC 3785 and a neighbouring galaxy. marks a major milestone in understanding galaxy evolution.

NGC 3785 galaxy is known to possess the longest tidal tail discovered so far. The tail extends from the galaxy and is formed due to gravitational forces ("tidal forces") when two galaxies interact closely, essentially pulling material away from each other during a close encounter or merger process.

When astronomers from the Indian Institute of Astrophysics (IIA), an autonomous institution of Department of Science and Technology and their collaborators looked carefully at the galaxy NGC 3785, they found that not only does it have the longest tidal tail discovered so far, but that an ultra-diffuse galaxy is currently being formed at the end of this tidal tail as well.

A seemingly longer than average tidal tail consisting of a stream of stars and gas, was chanced upon by Omkar Bait a few years ago, when he was a student at the National Centre for Radio Astrophysics (NCRA) in Pune. Recognising that this was a unique object, this discovery was shared with Yogesh Wadadekar (NCRA) and Sudhanshu Barway at IIA. They worked together on the subsequent study.

“We decided to look at this extraordinary galaxy and its giant tidal tail in great detail”, said Chandan Watts, a Ph.D. student at IIA and the first author of the paper that has since been published. He carried out a careful photometric analysis of the tail and measured its extent and length accurately using advanced image processing techniques. “We found that this extraordinary tidal tail stretches for 1.27 million light years, making this the longest tidal tail discovered so far,” he added.

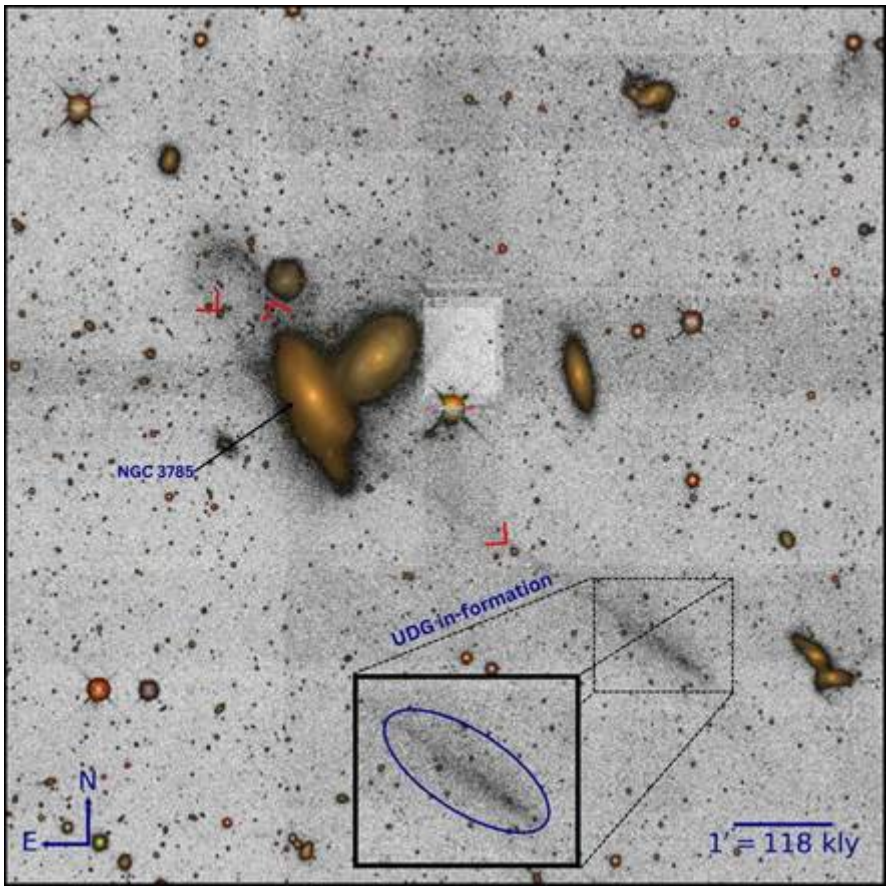
The tail is not only remarkable in its size, it also offers clues to the formation of ultra-diffuse galaxies (UDGs). The unique aspect of this tail is that a nascent ultra-diffuse galaxy has formed at its tip, likely driven by the gravitational interaction between NGC 3785 and a neighbouring galaxy —making it a rare and exciting discovery.

“This particular tail's extraordinary length and the presence of star-forming clumps along its span make it a unique case for understanding how faint and diffuse galaxies come into existence”, said Sudhanshu Barway, a faculty member at IIA and co-author of the study.

“This discovery highlights the fascinating process of galaxy interaction and how it can create new, faint, and diffuse structures,” explains Chandan. "The tidal tail offers a glimpse into how galaxies like ultra-diffuse ones, with very low surface brightness, come into being."

The new discovery promises to advance our understanding of low surface brightness features, which are often missed by traditional surveys due to their faintness. Recently launched missions like the Euclid Space Telescope and upcoming ground-based surveys such as the Rubin Observatory's Legacy Survey of Space and Time (LSST) will be instrumental in uncovering more such faint tidal features thanks to their enhanced sensitivity.

The research has been published in the November issue of the European journal, Astronomy & Astrophysics Letters. It is authored by Chandan Watts, from IIA and Pondicherry University, Dr. Sudhanshu Barway from IIA, Dr. Omkar Bait from SKA, U.K., and Dr. Yogesh Wadadekar from National Centre for Radio Astrophysics, Pune.



The enhanced tail features of NGC 3785 are shown in a reversed grey scale image. The regions of high brightness are shown in color to highlight the different features. The longest known tidal tail can be seen extending towards the bottom right from NGC 3785, culminating in the Ultra Diffuse Galaxy (UDG) in formation.

https://pib.gov.in/PressReleasePage.aspx?PRID=2090582

THE HINDU

Mon, 06 Jan 2025

ISRO's SpaDeX docking experiment postponed to January 9

The docking of the two Space Docking Experiment (SpaDeX) satellites scheduled for January 7 has been postponed to January 9.

"The SpaDeX Docking scheduled on 7th is now postponed to 9th. The docking process requires further validation through ground simulations based on an abort scenario identified today. Stay tuned for updates," the ISRO said in a post on Monday (January 6, 2025).

SpaDeX first of many as ISRO prepares for Chandrayaan-4The ISRO was scheduled to carry out the docking experiment of the two small satellites, SDX01 (Chaser) and SDX02 (Target) in the early morning of January 7.

Following the launch of the PSLV C60 rocket carrying two small satellites, SDX01 (Chaser) and SDX02 (Target) on December 30, 2024, ISRO Chairman S. Somanth had announced that the docking process could happen in another week. “The nominal time will be approximately January 7,” Mr. Somanth said.

Launch phase of the mission is successful: ISRO chief on SpaDeX satellite

The postponement of the docking experiment by two days is not a cause of concern if the experiment is executed within the window that lasts till January 10.

After the satellite launch, U.R. Rao Satellite Centre Director M. Sanakaran said the docking is expected between January 7 and 10.

With the SpaDeX mission, the ISRO aims to exhibit technologies needed for spacecraft rendezvous, docking, and undocking using two small satellites which have been mastered by only an elite group of spacefaring nations.

The demonstration of this technology is essential for futuristic missions such as sending an Indian astronaut on the Moon, sample return from the Moon, the building and operation of the Indian Space Station.

https://www.thehindu.com/sci-tech/science/spadex-docking-experiment-postponed-to-january-9/article69067681.ece

Mon, 06 Jan 2025

Scientists develop system to rapidly identify new variants of infectious diseases

Researchers have developed a new approach that uses genetic sequencing data to provide information in the underlying genetic changes of new variants of disease causing germs. Tracking these changes allows researchers to better understand why different variants spread in different ways among human populations. The same method works on both bacteria and viruses, and can also detect variants that are resistant to antibiotics. The approach uses samples from infected humans for realtime monitoring of pathogens circulating in populations, allowing for vaccines to specifically target any emerging variants. The approach works on variants of bacteria and viruses that cause flu, COVID, whooping cough and tuberculosis, among other infectious diseases.

While there are established surveillance programmes for COVID and flu, there are few systems in place for other infectious diseases. The technique provides a major advance in the approach for tackling these diseases, which previously relied on a groups of experts for a novel variant to be designated. The method systematically constructs a family tree of new variants, and determines if the variant is new depending on the amount of genetic change, as well as how easily it can spread

through human populations. There is no need for experts to now decide when a new variant has emerged.

New variants can be predicted in advance

The method works on only a small number of samples from infected people, and is particularly valuable for use in resource-poor settings. A paper describing the method has been published in *Nature*. First author of the paper, Noémie Lefrancq says, “Our new method provides a way to show, surprisingly quickly, whether there are new transmissible variants of pathogens circulating in populations – and it can be used for a huge range of bacteria and viruses. We can even use it to start predicting how new variants are going to take over, which means decisions can quickly be made about how to respond.” The researchers were able to test the method on samples of *Brodetella pertussis*, the bacteria that causes Whooping Cough, and identified three new variants.

https://www.news9live.com/science/scientists-develop-system-to-rapidly-identify-new-variants-of-infectious-diseases-2790351