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समाचार पत्रों से चयनित अंश
Newspapers Clippings

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

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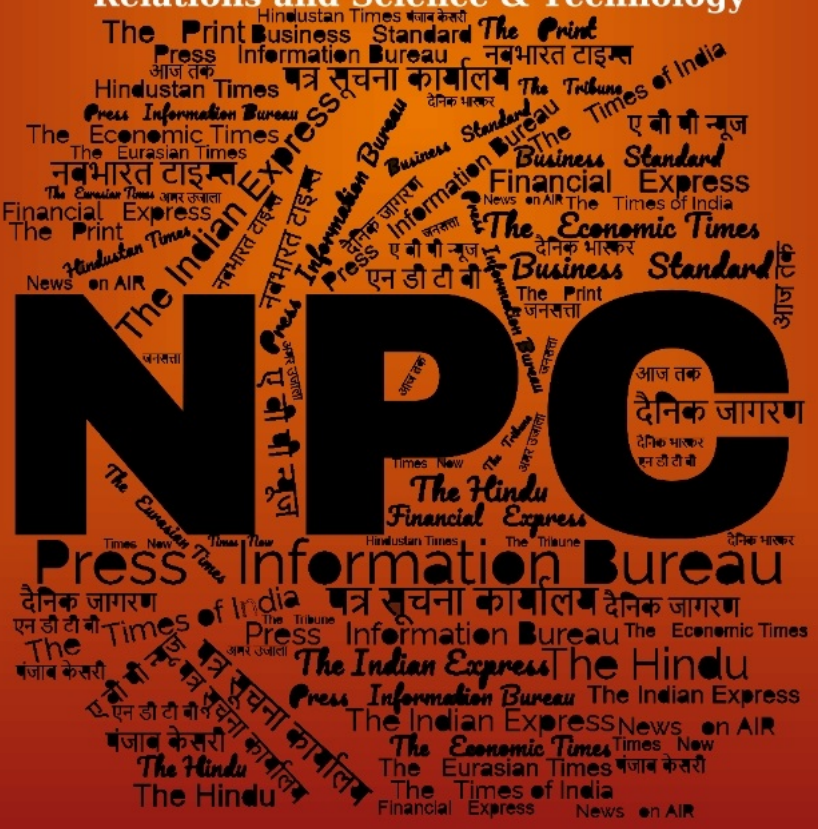

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DRDO News

नवभारत टाइम्स

Tue, 14 Jan 2025

दुश्मनों के मंसूबों पर फेर देगी पानी, एक बार निशाना लगाया तो ताबाही तय, अचूक है स्वदेशी नाग मिसाइल Mk 2

रक्षा अनुसंधान एवं विकास संगठन (DRDO) ने स्वदेशी नाग मिसाइल Mk 2 का सफल परीक्षण किया है। यह परीक्षण 13 जनवरी को पोखरण फील्ड रेंज में हुआ। नाग Mk 2 एक तीसरी पीढ़ी की एंटी–टैंक मिसाइल है। यह 'फायर–एंड–फॉरगेट' तकनीक पर काम करती है। मतलब एक बार निशाना लगाने के बाद मिसाइल खुद ही उसे तबाह कर देती है। परीक्षण में मिसाइल ने कम और ज्यादा दोनों दूरियों पर निशाने को सटीकता से भेद दिया। इसके साथ ही नाग मिसाइल कैरियर (संस्करण 2) का भी मूल्यांकन किया गया। अब यह पूरी वेपन सिस्टम भारतीय सेना में शामिल होने के लिए तैयार है। रक्षा मंत्री राजनाथ सिंह ने DRDO, भारतीय सेना और उद्योग जगत को बधाई दी है।

मारक मिसाइल है नाग Mk 2

DRDO ने 13 जनवरी, सोमवार को पोखरण में नाग Mk 2 मिसाइल का परीक्षण किया। रक्षा मंत्रालय के अनुसार, यह 'थर्ड–जेनेरेशन एंटी–टैंक फायर–एंड–फॉरगेट गाइडेड मिसाइल' है। परीक्षण के दौरान, मिसाइल ने अधिकतम और न्यूनतम दोनों रेंज पर लक्ष्यों को सटीक रूप से नष्ट कर दिया। इससे मिसाइल की मारक क्षमता साबित होती है। रक्षा विशेषज्ञों का कहना है कि परीक्षणों के दौरान 'नाग मिसाइल कैरियर' (संस्करण 2) का भी मूल्यांकन किया गया। इन सफल परीक्षणों के साथ, अब पूरा हथियार प्रणाली भारतीय सेना में शामिल होने के लिए तैयार है। तीन फील्ड परीक्षणों के दौरान, मिसाइल सिस्टम ने सभी लक्ष्यों को सटीक रूप से नष्ट कर दिया। इसने अपनी फायरिंग रेंज को साबित कर दिया।

राजनाथ सिंह ने दी बधाई

रक्षा मंत्रालय ने सोमवार को एक बयान में कहा कि गाइडेड मिसाइल का परीक्षण हाल ही में पोखरण फील्ड रेंज में भारतीय सेना के वरिष्ठ अधिकारियों की उपस्थिति में सफलतापूर्वक किया गया। नाग मिसाइल कैरियर संस्करण–2 का भी फील्ड मूल्यांकन किया गया। इसके साथ, अब पूरा हथियार प्रणाली भारतीय सेना में शामिल होने के लिए तैयार है। रक्षा मंत्री राजनाथ सिंह ने DRDO, भारतीय सेना और उद्योग को नाग Mk 2 के पूरे हथियार प्रणाली के सफल परीक्षण के लिए बधाई दी है।

दुश्मनों के मंसूबों पर फेरेगी पानी

रक्षा अनुसंधान एवं विकास विभाग के सचिव और DRDO के अध्यक्ष डॉ समीर वी कामत ने भी सभी हितधारकों के प्रयासों की सराहना की। उन्होंने मिसाइल को भारतीय सेना में शामिल करने के लिए तैयार करने के लिए सभी को धन्यवाद दिया। पिछले साल, भारत ने एक मध्यम दूरी की बैलिस्टिक मिसाइल, अग्नि 4 का सफल प्रक्षेपण किया था। यह प्रक्षेपण 6 सितंबर, 2024 को ओडिशा के चांदीपुर में एकीकृत परीक्षण रेंज से किया गया था। 'बैलिस्टिक

मिसाइल, अग्नि 4' के प्रक्षेपण ने सभी परिचालन और तकनीकी मानकों को सफलतापूर्वक मान्य किया था। यह स्ट्रैटेजिक फोर्सेज कमांड के तत्वावधान में आयोजित किया गया था। नाग Mk 2 मिसाइल भारतीय सेना की ताकत को और बढ़ाएगी। यह दुश्मन के टैंकों को तबाह करने में मदद करेगी।

https://navbharattimes.indiatimes.com/india/indigenous-nag-mk2-missile-successful-test-launch-works-on-fire-and-forget-technic-know-how-powerful-it-is/articleshow/117218699.cms

THE HINDU

Tue, 14 Jan 2025

Indigenous Anti-Tank Guided Missile 'Nag Mk 2' ready for induction: DRDO

Field evaluation trials of Nag-Mk 2 were successfully conducted recently at Pokhran Field Range in the presence of senior officers of the Army, a statement from the DRDO said.

The Defence Research and Development Organisation (DRDO) on Monday (January 13, 2024) announced that the indigenously-developed third-generation fire-and-forget Anti-Tank Guided Missile (ATGM) 'Nag Mk 2' and the entire system was ready for induction into the Army following successful field firing trials.Successful field trials of Nag Mk 2 Anti-Tank Guided Missile conducted at Pokhran. All targets destroyed, system ready for induction. Raksha Mantri applauds DRDO, Indian Army & industry for the achievement.

Field evaluation trials of Nag-Mk 2 were successfully conducted recently at Pokhran Field Range in the presence of senior officers of the Army, a statement from the DRDO said. “During the three field trials, the missile systems destroyed precisely all the targets - maximum and minimum range, thus validating its firing range.”

Stating that the Nag Missile Carrier version-2 was also field evaluated, the DRDO announced, “With this, the entire weapon system is now ready for induction into the Indian Army.”

Defence Minister Rajnath Singh took to social media to congratulate the Army and the industry on the successful field evaluation trials.

https://www.thehindu.com/news/national/indigenous-anti-tank-guided-missile-nag-mk-2-ready-for-induction-drdo/article69096428.ece

Defence News

Defence Strategic: National/International

Press Information Bureau
Government of India

Ministry of Defence

Mon, 13 Jan 2025

Keel-Laying Ceremony of Training Ship for ICG held at MDL, Mumbai

The Keel-Laying ceremony of a Training Ship (Yard 16101) for Indian Coast Guard (ICG) was held at Mazagon Dock Shipbuilders Ltd (MDL), Mumbai on January 13, 2025. With a range of 7,500 nautical miles, the ship will be equipped with specialised facilities such as a training bridge for cadets, a chart house, and dedicated classrooms to ensure a high-quality learning experience at sea. It will also play a crucial role in the training of 70 under-trainee officers, including women officers, after their basic training ashore.

The ship with a length of 107 meters will be capable of achieving a maximum speed of 20 knots. It will also feature state-of-the-art machinery and advanced technological systems, including AI-based predictive maintenance systems, a multipurpose drone, Integrated Bridge System & Integrated Platform Management System. The ceremony was presided over by Deputy Director

General (Material & Maintenance) Inspector General HK Sharma, in the presence of the Director (Shipbuilding), MDL and other senior officials from the ICG and MDL.

The contract for the construction of the ship was concluded in October 2023. The ship is being indigenously designed, developed, and constructed by MDL under the Buy (Indian-IDDM) category, in line with the Government's vision of Aatmanirbhar Bharat. The project underscores India's commitment to self-reliance in defence production and will significantly contribute to strengthening the nation's strategic autonomy. This initiative marks a key milestone in ICG's ongoing efforts to enhance its operational capabilities and ensure the highest standards of training for its officers, further strengthening their role in safeguarding India's maritime interests.

https://pib.gov.in/PressReleasePage.aspx?PRID=2092464

Press Information Bureau
Government of India

Ministry of Defence

Mon, 13 Jan 2025

INS Tushil At Lagos

INS Tushil, Indian Navy's latest guided missile stealth frigate, arrived at Lagos, Nigeria, on 12 Jan 25, for an operational turnaround, as part of her ongoing deployment to the Gulf of Guinea.

The ship was escorted into Lagos harbour by a Nigerian naval ship and was accorded a warm welcome by Nigerian Navy officers, Indian High Commission officials, and the Indian diaspora at Lagos.

Captain Peter Varghese, Commanding Officer of INS Tushil, will meet with senior leadership of the Nigerian Navy, including Rear Admiral MG Oamen, the Flag Officer Commanding the Western Naval Command and the Admiral Superintendent of the Naval Dockyard. The discussions will focus on enhancing bilateral naval cooperation.

During her stay in harbour, the ship will undertake various professional interactions, including a tabletop exercise, collaborative training activities, and cross-visits, and discussions on sharing *Best Practices*. Additionally, the ship's crew, in collaboration with the High Commission of India and the Indian Pharmaceutical Manufacturers and Importers of Nigeria (IPMIN), will organise a medical camp for locals to enhance people-to-people relations between India and Nigeria.

Social and cultural activities planned to be held during the visit include a deck reception for the Nigerian Navy officials, diplomatic corps and the Indian diaspora, and also 'Open for Visitors' for locals to showcase the ship's formidable capabilities and indigenous content. A Yoga session and sports fixtures are also planned during the harbour stay.

The visit reaffirms the Indian Navy's commitment to maritime security and stability in the region through collaborative efforts. It also underscores the warm and friendly relations between India and Nigeria, rooted in shared values of democracy and development, as well as the long-standing bilateral cooperation between the two navies**.**

https://pib.gov.in/PressReleasePage.aspx?PRID=2092626

Hindustan Times

Mon, 13 Jan 2025

Shipped reactor vessel for Kudankulam nuclear plant, says Russia’s Rosatom

Russia’s state-run atomic agency said on Monday that it has shipped the reactor vessel for the sixth power unit of the Kudankulam nuclear power plant to India.

The Kudankulam plant in Tamil Nadu, which will have six reactors with a total installed capacity of 6,000 MW, is the largest nuclear power plant in India and the flagship project of Russian-Indian energy cooperation. The production cycle for making a reactor vessel is two years.

Russia’s nuclear agency Rosatom said the reactor vessel for the sixth power unit at the Kudankulam plant is being transported to the construction site from the seaport of Novorossiysk. The equipment, weighing 320 tonnes and manufactured by Atommash, Rosatom’s machine-building division, was shipped at the end of 2024.

The “reactor vessel was placed in the hold of a sea vessel for the 6,000-mile journey to India”, Rosatom said in a statement.

“A set of four steam generators for the sixth unit of the Kudankulam NPP in India will be shipped in 2025,” the statement said.

Four power units are currently being built at the Kudankulam site. The first two units were connected to India's national grid in 2013 and 2016 and currently supply electricity to the country's southern region.

Construction and installation work on the third and fourth units is nearing completion, and construction of the fifth and sixth power units has begun. Rosatom will provide fuel to the power units of the Kudankulam plant throughout their entire life cycle.

https://www.hindustantimes.com/india-news/russia-ships-reactor-vessel-for-kudankulam-nuclear-plant-101736780871957-amp.html

Hindustan Times

Tue, 14 Jan 2025

Degree of standoff exists along LAC, need to restore trust: Indian Army chief

Army chief General Upendra Dwivedi on Monday said a "degree of standoff" remains along the Line of Actual Control (LAC) with China in the sensitive Ladakh sector following developments that took place after the border row erupted in April 2020, and the two sides must reach a broader understanding on how to calm the situation down and restore the trust, describing the situation as "stable but sensitive."

He ruled out any plans to cut troop levels along the disputed mountain frontier during the current winter.

"As far as the standoff is concerned, we have to see what all has changed after April 2020. Both sides have doctored the terrain (through deployments and construction), carried out billeting construction and there has been stocking and deployment. This means there is a degree of standoff," Dwivedi said at his annual media briefing ahead of the upcoming Army Day.

Dwivedi's comments, in response to a question on the situation along the LAC, came two-and-a-half months after the Indian Army and the Chinese People's Liberation Army (PLA) resumed their patrolling activities in Depsang and Demchok in Ladakh after a gap of almost four-and-a-half years.

The disengagement in the two areas began on October 23, 2024, two days after India and China announced a breakthrough in negotiations to resolve their stand-off in Depsang and Demchok, the last two flashpoints in Ladakh where the two armies were eyeball-to-eyeball since April 2020.

The trust between the two countries must have a new definition after the changed scenario on both sides of the LAC following the developments that took place after April 2020, the army chief said.

"There is a requirement for us to sit together and come to a broader understanding on how we want to kind of calm the situation down and restore the trust. So, we are now looking forward to the next meeting of the Special Representatives on the border issue and the Working Mechanism for

Consultation and Coordination (WMCC) on India-China border affairs, and we will move forward based on their guidance...India has adequate strategic patience," Dwivedi said.

The Special Representatives on the border issue — India's national security adviser Ajit Doval and China's foreign minister Wang Yi — met in Beijing on December 18, 2024, for their first formal talks in nearly five years. The 32nd meeting of the WMCC was held in Delhi on December 5.

Corps commanders along the entire stretch of the LAC, from Ladakh to Arunachal Pradesh, have been delegated powers to resolve "trivial issues and minor frictions" so they don't snowball into bigger issues, he said.

Dwivedi said the verification of patrolling in Depsang and Demchok has thus far been completed twice and both sides are satisfied.

India and China earlier disengaged from Galwan Valley, Pangong Tso, Gogra (PP-17A) and Hot Springs (PP-15), areas where so-called buffer zones were created to temporarily restrict the patrolling activities of both armies. The zones of separation were aimed at eliminating the possibility of violent face-offs. The lifting of the moratorium on patrolling these areas by both sides will depend on the outcome of further talks.

There is no such thing as a buffer zone, the army chief said.

"When you carry out a negotiation then you look at what can be solved immediately and what will take some time. Where you feel that the degree of violence can be high and the fuse is short, you create some distances. When we carried out these negotiations over a period, a temporary moratorium (on patrolling) was declared at some places. It means that both sides will stay back and will not go to the common areas because we still feel that if we meet at those places the violence level may go up."

Troop deployment along the LAC is directly dependent on the trust factor between the two armies, he said. The deployment and infrastructure development are dependent on the capability on the other side, and not on the presence of troops there, he pointed out.

"As of today, the capability on the other side entails that we should continue to maintain this kind of troop level. We have two types of deployment --- summer and winter. In the winter strategy, we are not looking at any reduction of troops. When it comes to the summer strategy, we will carry out a review based on how many negotiations, conferences and meetings have taken place, and the indications and assurances coming from there," he said.

In November 2024, defence minister Rajnath Singh held talks with his Chinese counterpart Admiral Dong Jun at Vientiane in Laos and emphasised the need for the two countries to work towards de-escalation of the conflict in the Ladakh theatre on the back of the disengagement of Indian and Chinese armies from Depsang and Demchok, adding that it would help build greater trust and confidence between the two sides.

To be sure, disengagement from friction areas is the first step towards cooling border tensions. De-escalation of the lingering conflict and the eventual de-induction of rival soldiers must follow to restore peace and tranquillity in the sector. Both armies still have tens of thousands of troops each and advanced weaponry deployed in the Ladakh theatre.

On the situation in Jammu and Kashmir, Dwivedi said the violence level there is being orchestrated by the epicentre of terrorism: Pakistan, where terror infrastructure is intact.

“We inducted 15,000 additional troops in 2024 and that’s why the violence level has gone down... we have been able to neutralise 73 terrorists out of which 60% were from Pakistan. The Parliamentary and assembly elections had almost 60% voting each. It means that the local population is going with peace,” he said, adding that the government had approved emergency procurement for counter-terror operations.

He said 80% of the terrorists operating in J&K were from Pakistan.

The country celebrates January 15 as Army Day as it was on this day that General KM Cariappa (later Field Marshal) took charge of the force from General Francis Robert Roy Bucher 76 yrs ago. Cariappa was the first Indian officer to be appointed army chief, a position he held for four years.

https://www.hindustantimes.com/india-news/degree-of-standoff-exists-along-lac-need-to-restore-trust-indian-army-chief-101736826667532.html

Hindustan Times

Mon, 13 Jan 2025

Boosting US-India private sector defence industrial cooperation

A recent meeting between United States (US) and Indian experts on security and defence cooperation identified opportunities and challenges to furthering private sector defence collaboration between the US and India in ways that advance the overall security partnership. During the meeting, it was evident that the Indian government is keen on reducing traditional reliance of its defense forces on specific countries and geographies for weaponry. Despite historical ties and the current level of technical cooperation and technology transfer from Russia, Indian participants expressed an evolving need to diversify. The urgency of diversification was highlighted by Russia’s struggle to meet arms export commitments following its invasion of Ukraine. Prime Minister Narendra Modi’s Make in India initiative, which combines a realistic assessment of external threats and the need to innovate at home, is driving this shift.

The emergence of the US-India Comprehensive Global and Strategic Partnership has provided natural pathways to strengthen avenues in co-production and co-development. The two nations nurtured a mutual and strategic partnership over the course of the last two decades, marked by increasing economic trade, political engagement and security cooperation. The rise of China as a dominant power in the Indo-Pacific has further aligned US and Indian interests. China's assertive actions in the South and East China Seas as well as in the Indian Ocean threaten regional stability, posing potential conflict risks with the US and India. Additionally, Chinese incursions along India’s border since 2017 significantly altered bilateral relations, providing both countries with compelling reasons to cooperate.

While the recent China-India agreement to pull back forces in the disputed border areas has reduced tensions, the durability of the reproachment remains to be seen. Regardless, India aims to strengthen ties with major economies in Asia and Europe to bolster its economy and assert sovereignty in its relations with all major powers. US participants noted that stronger relations between India and other democracies fit with US views on global security, enhanced by alliances that respect international laws and norms.

Although Indian arms production predominantly occurs in the public sector, the private sector is emerging as a key driver of indigenous defense production. Make in India mandates and co-production arrangements with foreign companies are expected to bolster private sector growth. Joint production of defense equipment, such as aircraft engines and MQ-9 drones, exemplifies the expanding US-India security relationship. A successful joint US-India co-development of a major defense item could serve as a significant endorsement for future cooperative projects. Parallel to major defence systems projects, collaboration among start-up companies is seen as crucial. While venture capital for Indian start-ups is growing, it remains less robust than in the US collaboration in the dual-use sector may lead to innovations that balance the relationship between firms from both countries.

A formidable challenge for US-Indian defence industrial cooperation is the structural difference in defense system production between the two nations. The US department of defense sets system requirements with private companies competing on performance and cost, driven by profit motives. In contrast, India has prioritised government defence production entities for national security, though this may change with policies encouraging private sector involvement.Indian companies are bidding to produce variants of the Stryker combat vehicle, which could serve as a model case. Collaboration on this system could become a significant export item for Southeast Asia, a promising market for co-produced arms exports.

The structural differences in weaponry development between the US and India have implications for co-production arrangements. American companies invest with long-term horizons, assured by strong IP protection and large R&D budgets. In India, State-owned enterprises develop products for the local market, with little competition, leading to innovation barriers and cost over-runs. The US defence industry faces similar challenges due to significant consolidation in the sector.

Defense industrial cooperation between the two countries can help boost the development of India’s technological capabilities, but doing so must overcome some hurdles resulting from the different levels of capabilities. Transferring some US defence technologies has been a stumbling block in the relationship. US companies have had concerns about IP risks and market size have made some U.S. defense companies hesitant to enter the India market. From the Indian perspective, US restrictions on technology transfer seem to reflect a lack of trust.

American companies face regulatory challenges in selling equipment to allies due to US government restrictions, which also contribute to Indian perceptions of mistrust. Indian scholars cite successful co-production with Israel, France, and Russia, questioning why similar US arrangements are not feasible. Experts suggested that foreign-partner government involvement in negotiations and financing of these co-production arrangements ensured success for political reasons rather than due to sound economic reasons.

These contrasting perspectives warrant further discussion. There is consensus that India-US relations are on an upward trajectory, particularly when it comes to co-production and technology transfer. Initiatives like the US-India initiative on Critical and Emerging Technology and the India-US Defence Acceleration Ecosystem are important to the two-countries' defence industrial partnerships, though challenges remain. The potential economic, political, and security dividends for both countries are considerable.

https://www.hindustantimes.com/ht-insight/international-affairs/boosting-us-india-private-sector-defence-industrial-cooperation-101736749653831.html

THE ECONOMIC TIMES

Mon, 13 Jan 2025

PM Narendra Modi to dedicate 3 frontline naval combatants to nation on Wednesday

Prime Minister Narendra Modi will dedicate three frontline naval combatants -- INS Surat, INS Nilgiri and INS Vaghsheer -- to the nation on their commissioning at the Naval Dockyard in Mumbai on Wednesday. In another function during his visit to Maharashtra, the prime minister will inaugurate an ISKCON Temple in Kharghar in Navi Mumbai, a PMO statement said on Monday.

It said the commissioning of the three major naval combatants marks a significant leap in realising India's vision of becoming a global leader in defence manufacturing and maritime security. INS Surat, the fourth and final ship of the P15B Guided Missile Destroyer Project, ranks among the largest and most sophisticated destroyers in the world. It has an indigenous content of 75 per cent and is equipped with state-of-the-art weapon-sensor packages and advanced network-centric capabilities, the statement said.

INS Nilgiri, the first ship of the P17A Stealth Frigate Project, has been designed by the Indian Navy's Warship Design Bureau and incorporates advanced features for enhanced survivability, seakeeping and stealth, reflecting the next generation of indigenous frigates. INS Vaghsheer, the sixth and final submarine of the P75 Scorpene Project, represents India's growing expertise in submarine construction and has been built in collaboration with the Naval Group of France.

The statement also said that in line with his commitment to boosting India's cultural heritage, Modi will inaugurate the Sri Sri Radha Madanmohanji Temple, an ISKCON project.The project, spread over nine acres, includes a temple with several deities, a Vedic education centre, proposed museums and auditorium, and a healing centre, among others. It aims to promote universal brotherhood, peace, and harmony through Vedic teachings, it said.

https://economictimes.indiatimes.com/news/defence/pm-narendra-modi-to-dedicate-3-frontline-naval-combatants-to-nation-on-wednesday/articleshow/117204792.cms

THE ECONOMIC TIMES

Mon, 13 Jan 2025

French carrier strike group conducts air-sea manoeuvres with Indian Navy

After stopovers in Goa and Kochi on India's western coast, the entire French carrier strike group (CSG) centred around aircraft carrier FNS Charles de Gaulle cast off on 9 January 2025 for the next phase of Mission Clemenceau 25 in the Indian Ocean. It set course for the Indonesian arc, where it would conduct exercise La Perouse, a statement by French Embassy in India stated.

A few hours after setting sail, the CSG carried out cooperation activities with the Indian Navy at sea and in the air. The French CSG destroyer conducted a joint navigation exercise with the Indian frigate INS Mormugao, during which the two ships practised tactical evolution manoeuvres. The two ships also deployed their respective onboard helicopters to carry out a cross-decks manoeuvre, as per the statement.

After the first drill, the fleet replenishment tanker FNS Jacques Chevallier refuelled the INS Mormugao frigate at sea. At the same time, Indian Sukhoi and Jaguar fighter jets carried out sorties with Rafale Marines from the embarked French Navy air fleet for a joint anti-aircraft drill.

On January 10, an Atlantique 2 maritime patrol aircraft made a logistical stopover in India before heading for Indonesia, where it joined the deployed French force. Thanks to the privileged relations between France and India, the halt of the in-transit Atlantique 2 on Indian territory enabled the CSG to deploy far away from its base and maintain its operations at sea.

As per the statement, these activities once again demonstrated the high level of interoperability between the two navies. This joint manoeuvre came ahead of the 42nd edition of the bilateral naval exercise, VARUNA, which France and India have been holding since 1983. The CSG will take part in this annual bilateral exercise when it returns to the Indian Ocean under Mission CLEMENCEAU 25, and will deploy all its assets alongside its Indian partner.

For 27 years, France and India have been united by a strategic partnership aimed at developing bilateral cooperation between our two countries.

In concrete terms, this includes numerous exercises, be they on land (SHAKTI), in the air (GARUDA), or at sea (VARUNA). India regularly supports French Navy ships by allowing numerous stopovers for ships and crew rest (16 stopovers since 2022), French Embassy reported.

https://economictimes.indiatimes.com/news/defence/french-carrier-strike-group-conducts-air-sea-manoeuvres-with-indian-navy/articleshow/117208913.cms

THE ECONOMIC TIMES

Mon, 13 Jan 2025

Army to start emergency buy for counterterror operations in Jammu and Kashmir

The domestic defence industry is set to get a slew of orders as the Army is initiating a round of emergency procurements to equip troops for counterterror operations in JK, with the focus being on quickly acquiring protective armour, surveillance systems and a range of drones.

The procurements will be carried out on the lines of a similar process adopted to get equipment after tensions rose with China along the Ladakh border and have come as a major boost to domestic manufacturers as they entail a rapid selection process and delivery within a year.

In the last few rounds of such procurements, local companies have managed to get hundreds of crores worth of orders that have kickstarted cutting edge research and development and given much needed heft to balance sheets.

Army Chief General Upendra Dwivedi said the procurements have been approved as a major induction of regular troops has been undertaken in the Poonch-Rajouri areas following escalation of violence. He attributed the escalation of violence to Pakistan, describing it as "the epicentre of terrorism".Sources said the procurements will be capped at a maximum price of ₹300 crore each and 8-10 cases are likely to be moved very shortly.

https://economictimes.indiatimes.com/news/defence/army-to-start-emergency-buy-for-counterterror-operations-in-jammu-and-kashmir/articleshow/117213532.cms

THE ECONOMIC TIMES

Mon, 13 Jan 2025

India is now among top 25 arms exporters globally: FM Nirmala Sitharaman

Union Finance Minister Nirmala Sitharaman stated that India now stands among the top 25 global arms exporters. She highlighted this achievement during her address at the 4th Convocation Ceremony of Rashtriya Raksha University in Gandhinagar, Gujarat on Monday.

She said, "From being the second largest arms importer in 2015 to 2019, as I said, India is now among the top 25 arms exporters with over 100 companies exporting products like BrahMos missiles, Pinaka rocket systems, and Dornier aircrafts."Sitharaman also emphasised that India has achieved unprecedented growth in indigenous defence production. In the financial year 2023-24,

the country reached a record-high defence production value of Rs 1.27 lakh crore, marking a 2.7-fold increase compared to 2014-15.

Defence exports also hit an all-time high of Rs 21,083 crore in 2023-24, a remarkable leap from just Rs 686 crore in 2013-14, representing a 30-fold increase over a decade.She stated, "Now, India has achieved the highest ever growth in indigenous defence production, and this is where I'd like to share the number. In value terms, today we've reached a record high of Rs 1.27 lakh crores in 2023-24."

The minister attributed this growth to robust policy support and investments under Prime Minister Narendra Modi's leadership.

"I'd like to highlight the fact that in the last few years, the emphasis given to defence production in this country is a matter of pride. Not just investments, policy support has made India today a net exporter of defence components. Earlier we were one of the biggest importers, and today when you have exports happening from India," she added.

Sitharaman also highlighted the importance of coastal security and maritime trade in national security. She lauded the Rashtriya Raksha University for training Indian coastal security forces and noted that over 80 per cent of global goods trade is carried by ships.

She further emphasized the government's focus on improving port infrastructure, stating that India's port capacity has doubled in the last decade.

"Over the last decade, we have doubled the capacity of our ports. And I want you to be sure that the policy of Prime Minister Narendra Modi is to ensure that our borders are given that much attention with policy and money."

This progress reflects India's growing self-reliance and global recognition in the defence sector, showcasing its potential as a major player in the global arms trade.

https://economictimes.indiatimes.com/news/defence/india-is-now-among-top-25-arms-exporters-globally-fm-nirmala-sitharaman/articleshow/117204394.cms

THE ECONOMIC TIMES

Mon, 13 Jan 2025

Soldiers at Siachen glacier now have high-speed internet

Soldiers posted at Siachen glacier, the highest battlefield in the world, can now enjoy high-speed internet services, a telecom company said. In the run-up to Army Day on January 15, Reliance Jio, in collaboration with the Indian Army, has achieved a groundbreaking milestone by extending its 4G and 5G network to the Siachen glacier, the company said.

"With support from the Army Signallers, Reliance Jio becomes the first telecom operator to deliver seamless connectivity in this harsh region," a spokesperson for the telecom company said.She said

Reliance Jio successfully deployed plug-and-play pre-configured equipment at a forward post, leveraging its indigenous full-stack 5G technology.

"This achievement was made possible in coordination with Army Signallers from planning to multiple training sessions, system pre-configuration and comprehensive testing. The Indian Army was pivotal in managing logistics, including airlifting Jio's equipment to Siachen glacier.

"This collaboration ensured connectivity at 16,000 feet in the Karakoram range, an area characterised by extreme conditions with temperatures plummeting to -50 degrees Celsius," the spokesperson added.

https://economictimes.indiatimes.com/news/defence/soldiers-at-siachen-glacier-now-have-high-speed-internet/articleshow/117206931.cms

THE ECONOMIC TIMES

Mon, 13 Jan 2025

No buffer zones on LAC, clarifies Army Chief Gen Dwivedi

Army Chief Gen Upendra Dwivedi on Monday said that the situation along the border with China was "stable but sensitive", while asserting that there were no buffer zones on the Line of Actual Control even as the two sides are looking towards resolving their boundary issues.

In his annual Army Day press conference, Gen Dwivedi also pointed out that the Army Headquarters has empowered the Corps Commanders to deal with trivial issues on their own to avoid making them a big issue.

"It is stable but sensitive. There have been a series of meetings. Even the Prime Minister has met the Chinese head...Coming on to Depsang and Demchok, April 2029 onwards, both sides had moved forward and stopped the other side from going to the traditional areas where they were carrying out the patrolling," he said while answering queries from ANI. Giving details of the ongoing efforts to resolve the border issues, he said, as far as verification patrolling, two rounds have already been completed by both sides over a period of time and both are quite satisfied about it. As far as the grazing ground is concerned, they have now mutually agreed upon," he said.

On the issue of buffer zones, he said, "There is nothing called a buffer zone...Where you feel that the nature or the degree of violence can be high and the fuse is short, you create some distance. So when we carried out these negotiations over a period of time, some places were declared as a temporary moratorium. It means that both sides will remain back and will not go to the common areas because we still feel that if we meet at those places, the violence level may go high."

The Army Chief said that after April 20, the trust level between the two countries has to have a new definition. "Therefore, there is a requirement for us to sit together and thereafter come to a broader understanding of how we want to calm down the situation and restore the trust. We are now looking forward to the next special representatives meeting, which should take place," Gen Dwivedi said.

In October last year, India and China reached an agreement regarding patrolling arrangements along the Line of Actual Control (LAC) in the India-China border areas.The border standoff between India and China began in eastern Ladakh along the LAC in 2020, and was sparked by Chinese military actions. It led to prolonged tensions between the two nations, significantly straining their relations. During the meeting of Prime Minister Modi with Chinese President Xi Jinping on the sidelines of the BRICS Summit held in Kazan, Russia last year, PM Modi said that maintaining peace and stability on the border should remain the priority of the two countries and mutual trust should remain the basis of bilateral ties.

https://economictimes.indiatimes.com/news/defence/no-buffer-zones-on-lac-clarifies-army-chief-gen-dwivedi/articleshow/117207056.cms

THE ECONOMIC TIMES

Mon, 13 Jan 2025

Italian defence firms can be among one of India's partners of choice: Envoy

Amid Italy's growing maritime presence in the Indo-Pacific region and partnership with India, Italian defence companies handling aircraft and helicopters, shipbuilding, engineering, space and electronics want to emerge as one of India's partners of choice, Italian Ambassador to India Antonio Bartoli told ET in an exclusive interview.

"Defence will be one of the pillars of our cooperation in the years ahead. Both our governments are significantly investing as the geopolitical landscape becomes more unstable and unpredictable. India is looking for reliable partners to diversify suppliers and strengthen its defence industry," he said.

Italian companies are among the top players in sectors such as aircraft and helicopters, shipbuilding, engineering, space and electronics, he said, adding, "We see a lot of untapped potential in our industrial ties and our governments intend to work on a roadmap to define goals, timelines and terms of this collaboration."

Italy and India form the natural terminals of a common strategic region, the Indo-Mediterranean, whose importance in global affairs is growing. Seventy per cent of global trade in goods and services and 60 per cent of global foreign direct investments transit through this area. These figures are likely to grow in the future, Bartoli said, referring to the strategic partnership.

As peninsulas projected into the Mediterranean Sea and the Indian Ocean, Italy and India are right at the edge of trade routes, sea-lanes, data cables and strategic corridors. "We can play the role of hubs and work closely together to increase international cooperation on shared challenges such as connectivity, mobility, research and innovation. The idea behind the IMEC (India-Middle East-Europe) project – the corridor between India and Europe – fits precisely this purpose," said Bartoli.

The envoy further said, “The India-Italy Joint Action Plan is just a starting point and the level of ambition in our bilateral relations reflects an intense and substantive dialogue between our leaders. Our Prime Ministers, Modi and Meloni, met five times in the last two years. We believe this positive new chapter will be the first of many others to come, as both India and Italy understand the significant geopolitical role that one plays in the eyes of the other.”

https://economictimes.indiatimes.com/news/defence/italian-defence-firms-can-be-among-one-of-indias-partners-of-choice-envoy/articleshow/117207525.cms

THE TIMES OF INDIA

Tue, 14 Jan 2025

Army chief general Upendra Dwivedi says Dhaka strategically key, ‘animosity’ not good for ties

India and Bangladesh consider each other "strategically important" neighbours and any kind of "animosity" between the two countries is not in the interest of either, Army chief General Upendra Dwivedi said on Monday.

Asked about the current status of India-Bangladesh relations, Gen Dwivedi said, "We should talk about the (overall) relationship when there is an elected govt (in Bangladesh)." The relationship between the two militaries, however, is "well and perfect", he added.

The Army chief said he has been in regular contact with his Bangladeshi counterpart Gen Waker-Uz-Zaman, including during the regime change in early Aug last year. "I will take you back to the comment given by the Bangladesh chief recently that India is strategically important to his country. The same is true for us - Bangladesh is strategically important to us," Gen Dwivedi said. "We are neighbours. We have to live together and understand each other and any kind of animosity is not in each other's interest. As of today, there is no vulnerability from any side."

India over the years had stepped-up military ties with Bangladesh in a bid to stem China's major strategic inroads into the country. Around 50-60 Bangladesh Army officers, for instance, attend specialised courses in Indian military establishments every year.

"As far as military cooperation with Bangladesh is concerned, it is going on in the same way. Three of our officers have recently gone to Dhaka to attend the NDC (National Defence College) course," Gen Dwivedi said. The joint military exercise, however, has been temporarily put on hold due to the situation in Bangladesh. "As and when the situation improves, that exercise will also go on," he further said.

https://timesofindia.indiatimes.com/india/army-chief-general-upendra-dwivedi-says-dhaka-strategically-key-animosity-not-good-for-ties/articleshow/117215181.cms

THE TIMES OF INDIA

Tue, 14 Jan 2025

100 years on, mules remain Army’s logistics backbone in-remote-border areas despite modernisation

The Indian Army is gradually replacing the mules it deploys with motorised vehicles and most recently, introduced robotic mules called Multi-Utility Legged Equipment (MULE) as part of modernisation efforts. However, the animals remain the backbone of logistics, especially in remote areas with difficult terrain along the western and eastern borders.

First introduced by the British Indian Army, mules remain vital to the Army even a century later. They are classified into two categories depending on their use: General Service (GS) and Mounted Artillery (MA), both managed by the Army Service Corps (ASC), which is responsible for the logistics support of the armed forces.

An ASC officer requesting anonymity told TOI, "GS mules carry rations including fuel for the forces, while MA mules transport heavy mortar guns." He added, "While MA mules are being replaced with towing trucks and other relevant vehicles as border infrastructure develops, GS mules are largely still in service, especially in areas where even helicopters can't reach. In Uttarakhand, the Army has about 1,000 GS mules deployed near the LAC. In total, over 4,000 mules are being used by the Army in the country."

The mules are trained at the Remount Training School and Depot in Hempur from the age of 6 months to around 3 years, before being deployed for service for around 15 years. "They undergo battle inoculation to ensure that they don't get scared by the sound of firing and run haywire. They are trained to carry 40-80 kg at a time, ensuring an even load distribution on both sides. One can imagine their importance considering that in some high-altitude areas, choppers can't carry this weight due to operational limitations. Even China turned to mules after failing to transport loads by helicopter along some LAC areas," the officer added.

On the breeding of the mules for the armed forces, the officer said, "MA mules are bred from mares of Austria's Noric breed or France's Breton and Australian male donkeys, resulting in larger mules that can carry loads weighing around 100 kg. GS mules are bred from local mares in Punjab and local male donkeys, resulting in smaller mules as compared to the MA mules." Each battalion has a veterinary doctor and muleteers to care for the mules.

Lt Gen Mohan Bhandari (retd), who served in the Army for 40 years recalled, "At one point of time, especially in the 70s and 80s, mules were the only mode of transport in remote areas. In Arunachal Pradesh, Sikkim, and Ladakh, it was the mules which carried the load till the place of deployment. They were the lifeline of the supply lines for forces in those difficult areas, though they had some drawbacks, such as having to carry their own fodder, which in Army lingo is called ‘dead weight.' We all had immense respect for them and treated them like one of our own."

Lt Col Manish Shrivastava, public relations officer, defence (Dehradun), said, "With improved border infrastructure, the Army is shifting to modern modes of transport, but mules still remain vital for us."

https://timesofindia.indiatimes.com/city/dehradun/100-years-on-mules-remain-armys-logistics-backbone-in-remote-border-areas-despite-modernisation/articleshow/117212994.cms

ThePrint

Mon, 13 Jan 2025

Army Chief says looking at 12x more induction of women in Other Ranks by 2032

The Army has approved a study with an aim to increase the number of women officers in the force by 2037, the Chief of the Army Staff (COAS) General Upendra Dwivedi has said. Giving an estimate of the number of women in the Army currently, the COAS, during a media briefing ahead of 77th Army Day, said, “In the NDA as of today, we have 60 women Army cadets and every year, we are looking at [inducting] 20 cadets. Also, in the Officers’ Training Academy (OTA)—Chennai and Gaya—we are looking at 120 per year.”

When it comes to inducting women in the Other Ranks (ORs), it involves a change in Section 12 of the Army Act, he said. The Army is looking at a 12 times increase in women’s induction in ORs by 2032, he added. “We are wanting to make it 1,200. Then slowly to 1,700 per year. We have to slowly prepare the society and the military for that. When it comes to the Guardian force, women can play a very important role,” General Dwivedi said. Currently, the total number of women officers is 8,000, he said. The Territorial Army recently opened up for women and 110 vacancies will come up for women, he added.

The announcement about the increase in the number of women officers comes only months after Lieutenant General Rajeev Puri, a Corps Commander, wrote a five-page letter to Lieutenant General Ram Chander Tiwari, General Officer Commanding-in-Chief of the Eastern Command, citing issues affecting Army units led by women officers.

Lieutenant General Puri’s letter raised concerns such as a “misplaced sense of entitlement”, “lack of empathy”, and a “tendency to complain,” among other issues. The letter was described as a “pragmatic performance analysis” of eight women Commanding Officers (COs) under the 17 Mountain Strike Corps. Intended as an internal review by the Corps, the letter was leaked to the media in November last year.

Asked about the letter, General Dwivedi said women officers are performing remarkably well in the field. “The letter which got leaked out, shouldn’t have gotten leaked out. A court of inquiry has been ordered about it. It’s a perception, it’s his perception (and) he has all the right to give out that perception and comment. It’s an internal communication.”

He added that it is important to consider the context when women officers were made COs of their units. “When we made them commanding officers…this was based on the Supreme Court order and where the complete process was accelerated.”

General Dwivedi explained that when an officer is made a CO, the Army ensures they are given exposure in various fields and are required to complete several courses. However, for women officers, the Junior Command course was replaced with a shorter course.

By this, General Dwivedi meant that women officers did not undergo all the requisite experience and training that empowers a commanding officer. Since it was directed by the Supreme Court to appoint women COs, hurried training was imparted, including truncated junior command. An Army source told ThePrint that incidentally, a senior command course was run exclusively for women COs.

“The contact and the bonding with the troops was less. Lot of exceptions were given. When you have this kind of a situation, you may have some kind of surprises. Overall if you see, today we have 115 commanding officers who are commanding and 18 are already approved and ready,” General Dwivedi said.

“Maximum women officers will be found in the Northern Command. I have the first-hand experience to say so. You will always find all kinds of officers. [However], wherever I have seen, the women officers have been very mature, considerate and kind. And if I can say, up and about,” he added. General Dwivedi highlighted the achievements of Col Ponung Doming, and said she might receive an award this year.

“When I was in the Northern Command, along Demchok, where one of the most difficult roads is being built, she was always present. When I visited Umling La, the highest motorable pass, she was there. At an underground cavern, she was there as well,” he recalled. He reiterated that one example cannot serve as a yardstick.

“Today, I just wish to assure you, women officers were doing exceedingly well,” he said. “Today, there are approximately 16 women officers who are doing Staff College. There are women officers who are pilots in the aviation branch also. In the regiment of artillery, you are already aware, we have already started induction. In the TA battalion, AOC battalion, I have first hand experience to say so—they are doing exceedingly well.”

He said that the Army wants a strong woman officer, who is *“Kaali mata ka roop”*. However, this means that there has to be a gender neutral approach in the conduct and field infrastructure, he added. “In Sikkim and Mizoram, the Army is already ensuring this.”

He also suggested that physical test parameters should be nearly the same for men and women, though some exceptions might be necessary due to physical conditions. Currently, 1,700 women are training in Sainik schools, military schools, and Rashtriya Indian Military College (RIMC). “This means they will join the Army and tri-services in the future. Induction of women officers is inevitable and will be welcomed,” he said. General Dwivedi added that the Army plans to raise an all-women skydiving display team by 2025.

https://theprint.in/defence/army-chief-says-looking-at-12x-more-induction-of-women-in-other-ranks-by-2032/2443149/

The EurAsian Times

Mon, 13 Jan 2025

India's Stealth Drone Breaks Cover! Why IAF Is Unlikely To Place Orders For HAL's CATS Warrior UAV Despite All The Hype?

While the announcement was met with enthusiasm from defense aficionados online, a closer examination of the full-scale model raises concerns about the current state of the project.

The CATS Concept

HAL unveiled its CATS concept at Aero India 2021 in Bengaluru, displaying models of the system components CATS is an advanced concept akin to the U.S. Skyborg program. It envisions a mother ship operating in uncontested airspace, coordinating a team of four autonomous unmanned aerial vehicles (UAVs) – CATS Warrior, CATS Hunter, CATS Alpha-S, and CATS Infinity – with specific roles.

Let's take a look at the four CATS components.

CATS Warrior

The flagship drone of the system, CATS Warrior, is designed for autonomous operations up to 700 km from the mother ship in contested airspace. It can strike targets as would a cruise missile or deliver weapons such as SAAW up to 350 km into hostile territory.

Key specifications of the Warrior include:

Maximum Take-Off Weight: 1,300 kg

Speed: ~850 km/h

Range: 800 km

Flight Duration: 80 minutes

Payload Capacity: 250 kg (carried internally and under the wings)

Armament: Includes air-to-air and air-to-ground missiles.

The Warrior features a radar and sensor suite linked to the mothership, which assigns specific tasks and relays target coordinates.

Other CATS Components include:

CATS Hunter: A cruise missile launched by the mother ship, capable of penetrating deep into contested airspace to execute precision strikes.

CATS Alpha-S: A glider system designed to carry and release swarms of quadcopter drones (ranging from 4 to 20) into enemy territory, 50–100 km beyond the frontlines.

CATS Infinity: A high-altitude, solar-powered UAV designed for extended intelligence, surveillance, and reconnaissance (ISR) missions. Operating at altitudes of ~70,000 feet, it can remain airborne for 2–3 months, providing satellite-like coverage.

Stealth Characteristics

The CATS concept is critically dependent on radio frequency (RF) stealth to safely operate in contested airspace. The Warrior drone airframe is shaped to minimize radar cross-section (RCS) to enhance its survivability in contested airspace.

Other CATS Warrior features designed to reduce RCS include

1. A serpentine air intake on top of the fuselage that hides the engine compressor from ground-based radar emissions. Engine compressor blades reflect radar waves copiously. Also, the reflected radio energy can help in identifying the aircraft.

2. The use of composite materials to minimize RF reflection.

3. Internal weapons bay to completely eliminate the high RF reflectivity of weapons slung under the fuselage or wings. The drone can carry both air-to-air and air-to-ground weapons internally to maintain its stealth profile.

4. V-shaped tail surfaces to reduce RF reflections.

5. Use of conformal data link antennas, designed to blend with the drone's shape, reducing any protrusions that might increase radar reflection.

6. A Chevron exhaust similar to that found on the Lockheed Martin F-35 Lightning II, which helps in reducing both jet blast noise and radar emissions.

Warrior V-Tail

Conventional aircraft and drones feature aerodynamic surfaces at the rear of the fuselage for stability and control – usually a large vertical fin and a horizontal tailplane. These surfaces readily reflect RF energy, resulting in an increase in the RCS. The increase in RCS can be minimized by using two smaller fins angled outwards towards the horizontal.

The CATS Warrior uses two large fins angled outwards towards the horizontal and eliminates the horizontal tail plane completely. It may be noted that a pure stealth design eliminates tail surfaces completely and is often referred to as a flying wing design. Directional stability and control in a flying wing design is achieved by small computer-controlled surfaces on the wing. China recently unveiled two sixth-generation fighters, both of which feature a flying wing design to achieve pure stealth.

Powerplant

The CATS Warrior is envisioned to be powered by HAL's HTFE-25 engine, a 25 kN turbofan which is still under development. It is likely that the demonstrator unveiled likely uses two PTAE-7 engines. Developed by HAL in the 1980s for Pilotless Target Aircraft, the PTAE-7 is a 400 kg, 3.43 kN single-spool turbojet engine.

Interestingly, the CATS Warrior demonstrator's dorsal engine air intake differs significantly from the stealthy air intakes on models showcased at airshows. The location of the air intake is stealthy, but not its shaping.

Analysis

The following analysis is based on what is discernible from the photograph of the CATS Warrior posted by HAL to announce the successful completion of the drone's first ground run. It assumes that the drone is powered by PTAE-7 engines. The most striking feature appears to be the larger-than-expected size of the drone, which in the photograph appears to be as large as a small fighter, even after factoring in the distortion caused by the wide-angle lens used to capture the photograph.

Going by its size, it's hard to believe that the drone will feature an all-up weight of just 1,300 kg, as published by HAL earlier. The weight will likely be much more. We are possibly dealing with a weight spiral even before the drone has done a taxi run!

Weight spirals have plagued all HAL airframe designs and their impact on performance has been worsened by thrust shortfalls of respective power plants. Using two PTAE-7 engines, even a new thrust augmented variant, if it exists, there is no way the Warrior will reach its design speed of 850 kph!

Stealth shaping of CATS Warrior has infirmities that will reduce RCS, but not to the extent where the drone could be classified as a stealth drone. The infirmities include the design of the canted rudders, non-stealthy dorsal air intake, appendages like the large pitot tube, and non-stealthy exhaust.

Conclusion

The promise of CATS will only be realized if the Warrior and Hunter drones are adequately stealthy, feature fuel-efficient aero engines with thrust-to-weight ratios that guarantee good cruise, loiter, and maneuver performance, capable lightweight sensors, and adequate onboard computing horsepower for networking, navigation, and weapon operations.

It's difficult to be enthused by the CATS Warrior drone, considering its unproven stealth design, inadequate power plant, unproven sensors, and computing horsepower capabilities. Having said that, it's essential that HAL increase the pace of development of the CATS concept and work harder to realize its promised capabilities.

What HAL has developed so far is a technology demonstrator that will allow HAL to develop and test the sensors, networking and weapon system management capabilities required for an operational system. Engine ground run on a full-scale model with an interim engine is really not a landmark worthy of fanfare. HAL likely hyped the ground run to create a buzz before Aero India 2025. This is fine, but only if HAL doesn't project the CATS as an operational weapon system.

At the current state of its development, under no circumstances should the IAF be coerced into committing and placing orders for the CATS because that could perilously further weaken the IAF.

https://www.eurasiantimes.com/cats-warrior-drone-why-iaf-is-unlikely/

The EurAsian Times

Tue, 14 Jan 2025

Iran's "Laser Beam"! Amid Threats Of Israeli Strikes On Nuke Facilities, Iran Tests 'Mysterious' AD System: Media

Iran's Army has unveiled a state-of-the-art laser-powered air defense system during its Air Defense Forces' military maneuvers in the country's western and northern areas, the Iranian Mehr News Agency claimed. According to the report, Seraj has been called "daunting" by observers.

The system was rolled out at the Fordow uranium enrichment facility where the drills were taking place. The report stated that it was only one of the many layers of air defense operating at the facility and had been designed to dissuade Israel and the United States from attacking Iran and its nuclear program.

The specifications and features of the Seraj air defense system, including its operational range, currently remain shrouded in secrecy. However, laser-based air defense systems are becoming very popular with militaries around the world as they are very cost-effective means of downing aerial threats.

A high-energy laser is a big, stationary energy-producing device with a directed energy array on top. It uses a concentrated beam of highly energetic photons to intercept and destroy incoming enemy drones and missiles; it is not intended for mobile use but rather for fixed-site defense.

Additionally, these high-energy laser air defense systems can discreetly incinerate adversarial targets without inflicting collateral damage, thereby reducing casualties caused by the debris of interceptors falling on the ground after impact. The laser-based air defense systems are particularly beneficial against unmanned aerial vehicles (UAVs) because the concentrated laser beams can rapidly heat the UAV's body, resulting in its structural failure.

Earlier, a Chinese laser anti-drone system was allegedly spotted protecting a site in Iran where the Supreme Leader Ayatollah Ali Khamenei gave a rare public sermon in October 2024, as previously reported by EurAsian Times. It was deployed to protect the Supreme Leader from a possible targeted assassination attempt by Israel.

Some military experts earlier speculated that Iran may have reverse-engineered a Chinese anti-drone system or domestically produced a clone of the Chinese system to strengthen its air defense capabilities. However, these claims could not be independently verified.

The unveiling of the new laser air defense system is significant for Iran's defense, but it is not the only country that has developed or tested such a state-of-the-art air defense. Several countries like the US, the UK, Israel, South Korea, and China, among others, have reportedly developed and tested their laser air defense.

Of these, Israel's air defense warrants a special mention. Israel announced progress on its long-awaited high-powered laser interception system, known as the 'Iron Beam,' last year. Expected to

be inducted into service this year, the Iron Beam is intended to complement the Iron Dome and particularly target smaller aerial threats.

The system is considered to be a valuable addition to the Israeli military, which is forced to use expensive interceptor missiles to shoot down cheap, expendable drones fired by its adversaries in the region. In addition to Iron Beam, Israel's Rafael Advanced Defense Systems has also developed another laser-based air defense system known as Lite Beam, specifically for defense against drones.

As for Iran, while its expanding drone inventory has been lauded by observers, its air defense capabilities have been dismissed as insufficient to counter the prevailing threat from Israel and the US. Thus, the addition of a laser-based air defense system would add more teeth to Iran's arsenal and make it much easier and cheaper to shoot down hostile aerial targets, especially drones that may be deployed by enemies to target its military or nuclear facilities.

Iran's Air Defense Drills

The Iranian military announced that it had launched a large-scale air defense exercise called 'Eqtedar' on January 12, emphasizing that the exercise aims to safeguard vital infrastructure, such as the heavy water production and uranium enrichment facilities located at the Fordow and Khondab complexes.

"The exercise, led by the Army's Air Defense Force under the command of the country's integrated air defense network, simulated defending critical sites and mission centers against aerial and missile attacks using a wide range of units and equipment, including missile systems, radar, electronic warfare, and intelligence units," noted Iran's state media.

Notably, the latest drills come days after the military conducted nationwide drills in the air defense zone around the nuclear complex in central Iran, Natanz, against simulated missile and drone strikes.

Earlier, the Israeli Air Force (IAF) launched air strikes on Iran's military facilities in October 2024.

A recent report in an Israeli publication, the Jerusalem Post, noted: "Over the past few months, Prime Minister Benjamin Netanyahu took credit for the Israel Air Force destroying Iran's S-300 anti-aircraft radar systems on April 19, and the rest on October 26. This means that at any moment, Israel could launch an airstrike on the nuclear program, which is essentially undefended in any real way from such strikes – for now."

The air defense drills come amid concerns that US President-elect Donald Trump's so-called "maximum pressure" policy, which aims to increase US sanctions on Iran's oil industry, could give Israeli Prime Minister Benjamin Netanyahu the authority to attack Iran's nuclear sites. The Islamic Republic's Integrated Air Defense Network oversaw and guided the exercises, which successfully repelled the offensive operations of the mock enemy troops in Fordow and the neighboring Khondab District.

The exercises, which were designed to evaluate the real efficacy of the nation's air defense plans against possible enemy invasions, concluded on January 12 after meeting their pre-established goals. The Air Defense Forces had access to a variety of sensitive active and passive radar, signal

detection, optical, and surveillance technologies, which they used to guarantee intelligence command and the capacity to identify invading targets.

They also evaluated the operational and technical defense forces' dedication to passive defense concepts and their operational proficiency in various realistic engagement scenarios. The fast deployment principle was also emphasized throughout the drills.

https://www.eurasiantimes.com/irans-laser-beam-amid-threats-of-israeli-strike/

Science & Technology News

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New observatory at remote Purulia district West Bengal is expected to contribute significantly to Astrophysics

A new observatory set up by the S N Bose Centre for Basic Sciences (SNBCBS), an autonomous institute of the Department of Science and Technology, atop the Panchet Hill in the Garpanchakot area of Purulia district in West Bengal will significantly help in scientific observations of astronomical objects, training students in handling telescopes and recording data, generating national and international collaboration in astronomical research and most importantly, to fill in the longitudinal gap.

The observatory at a height of 600 meters above ground level and at longitude of approximately 86° E, will be a major observatory not only in eastern India, but also in the world. Along the 86 degrees East longitude stretching from the Arctic Ocean in the north to Antarctica in the south, there are very few observatories. This observatory will fill that gap. Renowned astrophysicist and Vice Chancellor of Ashoka University opines that in order to observe transient astronomical phenomena lasting a few minutes to a few hours, it is important to have good observatories on all the longitudes of the globe. Therefore, the Panchet observatory is strategically positioned.

S.N. Bose Centre has signed an MOU with the Sidhu Kanu Birsa University for joint responsibility of running the observatory and sharing resources.

At the virtual inauguration at the SKB University, Dr. Tanusri Saha-Dasgupta, Director of S.N. Bose Centre, said that this was a moment of pride for the Centre and she was hopeful that the Centre will be able to make significant contribution to the body of knowledge in observational astronomy.

Shri Viswajit Sahay, Financial Adviser of Department of Science and Technology, who graced the inaugural ceremony, said that an observatory always creates its own ecosystem in its vicinity and the Panchet observatory too holds this promise.

Dr Pabitra Kumar Chakrabarty, Vice Chancellor of SKB University said that an observatory of this standard in Purulia, which is considered as a backward district of West Bengal, could be a great source of encouragement to the students of the University.

The work which involved conceptualization, layout and initiation of the observatory by Dr. Ramkrishna Das, Dr. Soumen Mandal and Dr. Tapas Baug, all three from the Department of Astrophysics of SNBNCBS, started after the formal acquisition of land in 2018. Their work included site characterization, determining astronomical 'seeing' and weather parameters and installation of a 14-inch telescope for scientific observations.

Dr. B.N. Jagtap, Chairman of the Governing Body of the SNBCBS, Shri Vivek Pankaj, SDO of Raghunathpur and scientists from SNBCBS participated in the virtual as well as on site inauguration of the observatory.

https://pib.gov.in/PressReleasePage.aspx?PRID=2092417

Mon, 13 Jan 2025

Nuclear Electric Propulsion can reduce travel time to Mars

Conventional vehicles propelled by chemical fuels can make the trip to Mars within six to nine months. A promising new technology, called nuclear electric propulsion can reduce the one-way travel time between Earth and Mars to between four and six months. Nuclear electric propulsion uses a nuclear reactor to generate electricity, and positively charges gaseous propellants, that are then accelerated electrically to generate the thrust. One of the critical elements of nuclear electric propulsion devices is the heat dissipation system, which can be too bulky to fit within launch vehicles. NASA engineers are working on an innovative solution that loosens up the design.

Instead of stowing away the entire system within a single rocket fairing, NASA engineers are working on assembling the nuclear electric propulsion system, and especially the heat dissipation hardware in orbit. The system can be divided into smaller elements, deployed using multiple flights on launch vehicles, and then assembled robotically and autonomously in Earth orbit. A fully deployed heat dissipating radiator array would be roughly the size of a football field, which is just too large to fold into a single payload fairing, or nose cone of a rocket.

Modular Assembled Radiators for Nuclear Electric Propulsion Vehicles

NASA is working on a project known as MARVL, that provides the researchers with the flexibility of dispatching multiple pieces of the system into orbit in a manner that makes the most sense. The radiators use a liquid metal such as a sodium-potassium alloy, flowing through the panels. One of the NASA scientists working closely with the project, Julia Cline says, “Existing vehicles have not previously considered in-space assembly during the design process, so we have the opportunity here to say, ‘We’re going to build this vehicle in space. How do we do it? And what does the vehicle look like if we do that?’ I think it’s going to expand what we think of when it comes to nuclear propulsion.”

https://www.news9live.com/science/nuclear-electric-propulsion-can-reduce-travel-time-to-mars-2795763

Business Standard

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V Narayanan assumes charge as new ISRO chief, succeeding S Somanath

V Narayanan has assumed charge as the chairman of ISRO, replacing S Somanath, the Space Agency said. In a statement, the ISRO said, "Dr V Narayanan, Distinguished Scientist (Apex Grade), assumed the charge of Secretary, Department of Space, Chairman, Space Commission and

Chairman, ISRO on the afternoon of January 13, 2025." Prior to this, Narayanan served as the Director of ISRO's Liquid Propulsion Systems Centre (LPSC), a key facility responsible for the development of propulsion systems for launch vehicles and spacecraft.

He also played a pivotal role as the Chairman of the National Level Human Rated Certification Board (HRCB) for the Gaganyaan programme, India's ambitious human spaceflight mission. A veteran scientist, Narayanan joined ISRO in 1984 and has contributed significantly to India's space missions over the decades.

He became the Director of LPSC in January 2018, cementing his reputation as a leader in rocket and spacecraft propulsion technologies. Narayanan hails from a humble background and is an alumnus of IIT Kharagpur, where he completed his M.Tech in Cryogenic Engineering and PhD in Aerospace Engineering. Awarded the Silver Medal for securing the first rank in his M.Tech programme, he has also received the Distinguished Alumni Award in 2018 and the Life Fellowship Award in 2023 from IIT Kharagpur.

Before joining ISRO, Narayanan worked for a brief period at TI Diamond Chain Ltd., Madras Rubber Factory, and Bharat Heavy Electricals Limited (BHEL) at Trichy and Ranipet.

Over his 40-year tenure at ISRO, including seven years as Director of the Liquid Propulsion Systems Centre (LPSC), he has made groundbreaking contributions to India's space programme. "When India was denied the cryogenic technology for GSLV Mk-ll vehicle, he designed the engine systems, developed necessary software tools, contributed for establishing the necessary infrastructure and test facilities, testing and qualification and completing the development of Cryogenic Upper Stage (CUS) and making it operational," ISRO said.

As project director of the C25 cryogenic project for the LVM3 vehicle, he led the development of the C25 cryogenic stage powered by a 20-tonne thrust engine, which was crucial for the successful maiden launch of LVM3. His M.Tech thesis and PhD work were instrumental in the development of these systems, making India one of only six countries with indigenous cryogenic technology. Narayanan played a vital role in India's lunar missions. For Chandryaan-2 and 3, he led the development of the L110 Liquid Stage, the C25 Cryogenic Stage, and propulsion systems that enabled the spacecraft to reach the Moon's orbit and achieve a soft landing.

For the PSLV C57/Aditya L1 mission, he oversaw the realisation of the second and fourth stages, control power plants, and the propulsion system that helped position the spacecraft in a halo orbit at L1, making India the fourth country to successfully study the Sun. Narayanan has been instrumental in the Gaganyaan programme, contributing to the human-rating of the LVM3 vehicle and the development of various systems, including cryogenic stages, life support systems, and propulsion systems for the crew and service modules.

He also chaired the Gaganyaan Certification Board, overseeing the certification process for multiple systems. Under his leadership, ISRO has advanced the development of next-generation propulsion systems, including a 200-tonne thrust LOX-Kerosene semi-cryogenic rocket system, a 110-tonne thrust LOX-Methane engine, and electric and green propulsion systems for spacecraft.

He has also guided the propulsion systems for upcoming missions such as the Venus Orbiter, Chandrayaan-4, and the Bharatiya Antariksha Station (BAS). He is a Fellow of the Indian National

Academy of Engineering, Aeronautical Society of India, Astronautical Society of India, and other esteemed organizations.

https://www.business-standard.com/india-news/v-narayanan-assumes-charge-as-new-isro-chief-succeeding-s-somanath-125011400134_1.html