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# समाचार पत्रों से चयित अंश Newspapers Clippings

A Daily service to keep DRDO Fraternity abreast with DRDO  
Technologies, Defence Technologies, Defence Policies,  
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गुरुवार, 24 नवंबर 2022

### कितनी भी तैयारी कर ले दुश्मन, भारत का ये हथियार हर प्लान को करेगा फेल!

आवाज से दोगुनी स्पीड और बंद पड़े राडार सिस्टम को खोजकर खत्म करने में सक्षम भारत का नया हथियार दुश्मन के लिए किसी काल से कम नहीं है। भारत ने दुश्मन के मिसाइल सिस्टम को हवा में ही खत्म करने वाले हथियार को तैयार कर लिया है और अब इसे अगले पड़ाव पर ले जाने की तैयारी है। इंडियन एयरफोर्स ने मेक इन इंडिया के तर्ज पर तैयार रुद्रम नेक्स्ट जेनरेशन एंटी रेडिएशन मिसाइल सिस्टम (NGARM) के लिए सरकार के समक्ष 1400 करोड़ रुपये से अधिक का प्रस्ताव दिया है। इस बात की जानकारी डिफेंस के अधिकारियों ने दी है। यह मिसाइल प्रणाली अपने आप में बेहद खास है, जो दुश्मन के राडार लोकेशन को खोजकर उन्हें हवा में ही नष्ट कर सकती है। इस मिसाइल सिस्टम को रक्षा अनुसंधान और विकास संगठन (DRDO) ने तैयार किया है।

रक्षा विभाग के अधिकारियों ने न्यूज एजेंसी एएनआई को बताया कि DRDO द्वारा विकसित उन्नत मिसाइल सिस्टम के अधिग्रहण का प्रस्ताव अब रक्षा मंत्रालय के पास है। जल्द ही इस पर एक उच्च स्तरीय बैठक कर विचार किया जाएगा। उन्होंने कहा कि भारतीय वायु सेना सुखोई -30 लड़ाकू विमान से अगली पीढ़ी की इन विकिरण रोधी मिसाइलों की टेस्टिंग पहले ही कर चुकी है। ये युद्ध के दौरान दुश्मन के रडार को हमले से पहले ही नष्ट कर सकने में सक्षम है। अधिकारियों ने कहा कि रडार सिस्टम के नष्ट होने के बाद भारतीय वायु सेना के लिए टारगेट पर निशाना लगाने में मदद मिल सकती है।

NGARM मिसाइल को इंडियन एयरफोर्स के सुखोई-30 और मिराज-2000 जैसे लड़ाकू विमानों से दागा जा सकता है। ये मिसाइल बेहद सटीक हैं और इन्हें दुश्मन के रडार सिस्टम को ट्रैक करने की अद्भुत क्षमता के साथ विकसित किया गया है। ये ऐसी स्थिति में भी राडार को ट्रैक कर सकती है जब वो काम न कर रहा हो या बंद हो। NGARM भारत की पहली स्वदेशी रूप से विकसित विकिरण रोधी मिसाइल है जिसकी गति आवाज की स्पीड से भी दोगुनी है। हवा से जमीन पर मार करने वाली इस एंटी रेडिएशन मिसाइल में एक होमिंग हेड लगाया गया

है जो एक बहुत बड़े इलाके में रेडिएशन के सोर्स को ट्रैक कर सकता है. यह न केवल लॉन्च से पहले बल्कि लॉन्च के बाद भी टारगेट को लॉक करने में सक्षम है. NGARM को सेना में शामिल करने पर इंडियन एयरफोर्स को बड़ा बूस्टअप मिलेगा, क्योंकि यह एयरफोर्स को स्वदेशी हथियार प्रणालियों के साथ भविष्य के लिए किसी भी स्थिति से निपटने के लिए तैयार रहने में मदद करेगा.

<https://zeenews.india.com/hindi/india/iaf-to-get-indigenously-developed-rudram-anti-radiation-missiles-has-fired-from-sukhoi-30-check-specification/1456291&cd=1&hl=en&ct=clnk&gl=in&client=firefox-b-d>



गुरुवार, 24 नवंबर 2022

## 13 मिनट में बीजिंग, ढाई मिनट में इस्लामाबाद पहुंच जाएगी Agni-3, परमाणु बम गिराने में भी सक्षम

ऋचीक मिश्रा

ओडिशा के अब्दुल कलाम व्हीलर आईलैंड पर Agni-3 मिसाइल का सफल परीक्षण किया गया. 11 साल हो चुके हैं इस मिसाइल को सेना में शामिल किए हुए. यह एक इंटरमीडिएट-रेंज की बैलिस्टिक मिसाइल है. जो परमाणु हथियार ले जाने में सक्षम है. हालांकि, पारंपरिक और थर्मोबेरिक हथियारों से भी हमला कर सकती है. इसमें एक साथ कई टारगेट पर हमला करने वाली तकनीक MIRV जैसी ही समान टेक्नोलॉजी है.

Agni-3 मिसाइल की सबसे बड़ी खासियत उसकी गति (Speed) है. लेकिन उससे पहले हम इसकी रेंज (Range) की बात करते हैं. इस मिसाइल की रेंज 3 से 5 हजार किलोमीटर बताई जाती है. यानी हथियार का वजन कम या ज्यादा करके रेंज को बढ़ाया या कम किया जा सकता है. 3 से 5 हजार किलोमीटर की रेंज यानी चीन का बहुत बड़ा हिस्सा, पूरा पाकिस्तान, पूरा अफगानिस्तान, हॉर्न ऑफ अफ्रीका, अरब देश, इंडोनेशिया, म्यांमार जैसे कई देश इसकी जद में हैं. यानी आप चारों तरफ अपनी सुरक्षा के लिए इस मिसाइल का इस्तेमाल कर सकते हैं.

Agni-3 मिसाइल की गति मैक 15 है. यानी 18,522 किलोमीटर प्रतिघंटा. ये डरावनी गति है. यानी 5 से 6 किलोमीटर प्रति सेकेंड की स्पीड. इस गति में उड़ने वाली मिसाइल दुश्मन को सांस लेने या पलक झपकाने तक का मौका नहीं देती. 17 मीटर लंबी इस मिसाइल का वजन 50 हजार किलोग्राम है. कहते हैं कि एक अग्नि-3 मिसाइल बनाने में 25 से 35 करोड़ रुपये की लागत आती है. इसे 8x8 ट्रांसपोर्टर इरेक्टर लॉन्चर से छोड़ा जाता है.

## **कुछ ही मिनटों में बीजिंग-इस्लामाबाद तबाह!**

चीन की राजधानी बीजिंग की दिल्ली से हवाई दूरी 3791 किलोमीटर है. अग्नि-3 मिसाइल 5-6 किलोमीटर प्रति सेकंड की स्पीड से चलती है. उस हिसाब से बीजिंग की दूरी 12.63 मिनट में पूरी हो जाएगी. पाकिस्तान की राजधानी इस्लामाबाद की हवाई दूरी 679 किलोमीटर है. यहां तो अग्नि-3 मिसाइल मात्र ढाई मिनट में तबाही मचा देगी.

## **सेकंड स्ट्राइक की क्षमता में इजाफा**

अग्नि-3 मिसाइल समेत भारत के पास जितने भी परमाणु हथियार हैं, उनपर नीति एकदम साफ है. हम पहले हमला नहीं करेंगे लेकिन दुश्मन के हमले का मुंहतोड़ जवाब देंगे. अग्नि सीरीज की मिसाइलों से सेकंड स्ट्राइक की क्षमता बढ़ जाती है. अग्नि-3 मिसाइल को रक्षा अनुसंधान एवं विकास संगठन (DRDO) ने विकसित किया है. यह एक दो स्टेज वाली मिसाइल है, जो सॉलिड ईंधन से उड़ती है. आमतौर पर लंबी दूरी की बैलिस्टिक में सॉलिड ईंधनों का ही इस्तेमाल होता है. क्योंकि इससे उन्हें ज्यादा गति मिलती है.

## **450 KM की ऊंचाई तक जाने की क्षमता**

अग्नि-3 मिसाइल अपने टारगेट से अगर 40 मीटर यानी 130 फीट दूर भी गिरती है, तो तबाही 100 फीसदी पक्की है. इसे सर्कुलर एरर प्रोबेबल (CEP) कहते हैं. यह मिसाइल आसमान में अधिकतम 450 किलोमीटर की ऊंचाई तक जा सकती है. यानी दुश्मन के सैटेलाइट्स को मारने की क्षमता भी इसमें है. अगर सैटेलाइट को टारगेट बनाया जाए तो.

## **उड़ान के बीच बदल सकती है अपना रास्ता**

Agni-3 मिसाइल में रिंग लेजर गाइरोस्कोप इन्शियल नेविगेशन सिस्टम लगा है. यानी यह मिसाइल उड़ते समय बीच में रास्ता बदल सकती है. उड़ते समय ही यह इन्फ्रारेड होमिंग, राडार सीन कोरिलेशन और एक्टिव राडार होमिंग की मदद से दुश्मन पर हमला करती है. यानी दुश्मन कितना भी भागने की कोशिश करे, उसकी मौत पक्की है. इस मिसाइल का पहला टेस्ट 9 जुलाई 2006 को हुआ था. लेकिन वह असफल था. मिसाइल टारगेट से पहले गिर गई थी.

## **2490 KG वजनी हथियार लगा सकते हैं**

अग्नि-3 मिसाइल को सुधारा गया. इसके बाद 2007 में फिर परीक्षण किया गया. टारगेट की धज्जियां उड़ा दी गईं. अग्नि-3 मिसाइल भारत की मिसाइलों में सबसे भारीसेमंद, ताकतवर और तेज गति की मिसाइल है. इसमें आप परमाणु बम भी लगा सकते हैं. आग उगलने वाले थर्मोबेरिक हथियार भी लगा सकते हैं. साल 2010 में इसका फिर परीक्षण किया गया था. तब भी इसने टारगेट पर सटीकता के साथ हमला किया था. इस मिसाइल पर 2490 किलोग्राम वजनी हथियार तैनात किया जा सकता है. साल 2013, 2015, 2017 में भी इसके सफल परीक्षण हो चुके हैं.

<https://www.aajtak.in/science/story/agni-3-missile-range-speed-nuclear-warhead-pakistan-china-tstrd-1582409-2022-11-24&cd=1&hl=en&ct=clnk&gl=in&client=firefox-b-d>

## **Online Training Certification Courses on Cyber Security and Artificial Intelligence Machine Learning by Defence Institute of Advanced Technology DIAT Pune**

For a Self-reliant India, to fulfil demand of highly skilled Artificial Intelligence and Cyber Security professionals in the country, Defence Institute of Advanced Technology, DIAT, Pune is conducting the nationwide Online Training and Certification Courses (OTCC) in Cyber Security, Artificial Intelligence & Machine Learning(AI & ML). The School of Computer Engineering and Mathematical Sciences of DIAT has completed two batches of these courses and more than 1600 candidates are successfully trained and certified. The 3rd batch of AI & ML course is on-going.

Now DIAT is launching next batches of 16-weeks Online Course on Cyber Security, and 12-weeks Online Course on Artificial Intelligence & Machine Learning (AI & ML)in December 2022. The Graduating students, professionals, or any graduate person can apply for these courses. The enrolment depends on qualifying the online entrance test which is free. Detailed information about the courses is available on the DIAT website at <https://www.diat.ac.in/online-certificate-courses/>. Registration for the free entrance exam are open till 13th Dec 2022. Interested candidates may apply at:

<https://cdn3.digialm.com//EForms/configuredHtml/32306/79204/Registration.html>

The sessions are delivered by the eminent faculties and scientists from DIAT, DRDO, Industry, and renowned Universities. The objective of the courses is to impart the essential knowledge of Cyber Security and AI & ML to serve the needs of multidisciplinary research ongoing in different research labs and industries in the country. These courses contribute to the 'Skill India Mission' and 'AtmaNirbhar Bharat' to train the professionals with Cyber Security and Artificial Intelligence & Machine Learning skill-sets. The courses on Cryptography and Cyber-Physical Systems are in pipeline as well.

Defence Institute of Advanced Technology, DIAT, Pune is a unique Research University associated with the Defence Research and Development Organization, Ministry of defence, Government of India, engaged in developing indigenous contemporary Defence technologies. It offers PG programmes in areas of Cyber Security, Artificial Intelligence, Quantum Computing, Defence Electronics Systems, Navigation Systems, Air Armament, Robotics, Embedded Systems, Sensor Technology, etc. The courses are designed to cater the requirements of Defence Services; to provide technological solutions to optimise combat battlefield effectiveness; and above all to produce a qualified manpower which will be an instrument for building a strong indigenous technology in India.

<https://www.theweek.in/wire-updates/business/2022/11/24/dcm10-defence-institute-of-advanced-technology.html>



## DRDO on Twitter



DRDO  
@DRDO\_India

...

[#DRDOUpdates](#) | Ambassador of France in India had a call-on meeting with Secretary DDR&D and Chairman DRDO at DRDO Bhawan today regarding ongoing R&D collaborations and opportunities for future cooperation.

[@DefenceMinIndia](#)

[@SpokespersonMoD](#)







**Press Information Bureau**  
**Government of India**

**Ministry of Defense**

*Thu, 24 Nov 2022*

## **2022 Edition of the Indo-Pacific Regional Dialogue (IPRD-2022) Proceedings of Day II**

The Indo-Pacific Regional Dialogue 2022 (IPRD-2022), the annual apex-level regional strategic dialogue of the Indian Navy, is being conducted by the Indian Navy in New Delhi from 23 November 2022 to 25 November 2022. In furtherance of the overarching theme of the event – “Operationalising the Indo-Pacific Oceans Initiative” (IPOI) – the second day of the IPRD was conducted in three thematic sessions, which focused on three specific ‘pillars’ or ‘spokes’ of the IPOI namely, “Trade, Connectivity and Maritime Transport”, “Capacity Building and Resource Sharing”, and “Maritime Resources”.

The first session of the day was based on the theme: “Building Maritime Connectivity: Ports, Trade and Transport”. The session included a special address by Dr Sanjeev Ranjan, Secretary to the Government of India, Ministry of Ports, Shipping and Waterways, who outlined India’s approach in building maritime connectivity. Perspectives from the ASEAN, Australia, India and Sri Lanka were also discussed during the session.

The next session was conducted on the theme “Capacity-Building and Capability Enhancement: Leveraging the Physical and Social Sciences” which commenced with a special address by Dr M Ravichandran, Secretary, Ministry of Earth Sciences, Government of India. Dr Ravichandran emphasised that science and scientific research is a key element of the architecture of any ocean economy aspiring to be increasingly ‘Blue’, both at the national and regional level. He also laid stress upon the symbiotic relationship between the social and the physical sciences. The other speakers in the session presented views from the ASEAN, Israel, India, Japan and Chinese Taipei.

The third session of the day began with a special address by Shri Bhupender Yadav, the Hon’ble Minister for Environment, Forest and Climate Change, who is also concurrently the Minister of Labour and Employment. After the special address, the Hon’ble minister released a book entitled “Transitioning from a ‘Brown’ to a ‘Blue’ Economy in the Face of Climate Change”, published by the National Maritime Foundation, New Delhi. This session, on the theme “Practical Approaches to a Regional Blue Economy (With Particular Focus on Ecologically-Sensitive Harvesting of Marine Resources), included speakers from Thailand, Kenya, France, Indonesia, and the United Nations Development Programme (UNDP). The IPRD-2022, organised by the

National Maritime Foundation (NMF), New Delhi, as the Indian Navy's knowledge partner, is being attended by over 800 participants, including delegates from twenty friendly foreign countries and international organisations.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1878637>

## नवभारत टाइम्स

गुरुवार, 24 नवंबर 2022

### प्रोजेक्ट-15बी का दूसरा पोत नौसेना को सौंपा गया

मझगांव डॉक शिपबिल्डर्स में बनाए जा रहे प्रोजेक्ट-15बी स्टील्थ गाइडेड मिसाइल विध्वंसकों का दूसरा पोत बृहस्पतिवार को नौसेना को सौंप दिया गया। रक्षा मंत्रालय ने यह जानकारी दी। प्रोजेक्ट-15बी के चार जहाजों के लिए अनुबंध पर 28 जनवरी 2011 को हस्ताक्षर किए गए थे। मंत्रालय ने एक बयान में कहा, "मझगांव डॉक शिपबिल्डर्स लिमिटेड (एमडीएल) में बनाए जा रहे प्रोजेक्ट-15बी स्टील्थ गाइडेड मिसाइल विध्वंसकों के दूसरे पोत वाई 12705 (मुरगांव) को 24 नवंबर को भारतीय नौसेना को सौंप दिया गया।"

बयान में कहा गया कि यह परियोजना पिछले दशक में सेवा में शामिल किए गए गए कोलकाता श्रेणी (प्रोजेक्ट 15ए) के विध्वंसकों की अनुवर्ती है, और परियोजना का प्रमुख जहाज 'आईएनएस विशाखापत्तनम पहले ही 21 नवंबर, 2021 को भारतीय नौसेना में शामिल हो चुका है।

<https://navbharattimes.indiatimes.com/india/second-ship-of-project-15b-handed-over-to-navy/articleshow/95746054.cms>

## THE ECONOMIC TIMES

Thu, 24 Nov 2022

### Second Project 15B Guided Missile Destroyer Delivered to Indian Navy

Y 12705 (Mormugao), the second ship of Project 15B stealth guided missile destroyers being built at Mazagon Dock Shipbuilders Ltd (MDL), was delivered to the Indian Navy on Thursday, defence officials said. The ship is 163 metres long and 17 metres wide, displaces 7400 tonnes when fully loaded and has a maximum speed of 30 knots. Apart from myriad indigenous equipment in the 'Float' and 'Move' categories, the destroyer is also installed with major indigenous weapons. The overall indigenous content of the project is approximately 75 per cent, a Defence Ministry official said. The Defence Ministry said that the destroyers' indigenous equipment includes the medium-range surface-to-air missiles (made by BEL), BrahMos surface-to-surface missiles (BrahMos Aerospace), indigenous torpedo tube launchers (Larsen & Toubro), anti-submarine rocket launchers (Larsen & Toubro), and 76mm Super Rapid Gun Mount (BHEL).

The Indian Navy said that the ship had sailed out for her maiden sea sortie on December 19 last year to coincide with the Goa Liberation Day and has now been delivered. The delivery of Mormugao is an affirmation of the impetus being given by the government and the Indian Navy towards 'Atmanirbhar Bharat' as part of celebration of the 'Azadi ka Amrit Mahotsav'. The early induction of the destroyer, almost three months prior to the contractual date, despite the Covid challenges, is a tribute to the collaborative efforts of large number of stake-holders and would enhance the maritime prowess of the country in the Indian Ocean region, the Navy added. According to a Defence Ministry official, the contract for ships of four Project 15B - a follow-on of the Kolkata class (Project 15A) destroyers commissioned in the last decade - was signed on January 28, 2011. Its lead ship - INS Visakhapatnam has already been commissioned into the Indian Navy on November 21 last year.

Designed by the Navy's in-house Warship Design Bureau, and built by Mazagon Dock Shipbuilders Ltd, Mumbai, the four ships of the Project are christened after major cities from all four corners of the country, viz. Visakhapatnam, Mormugao, Imphal and Surat, the defence ministry official added. The ministry said that Mormugao's keel was laid in June 2015 and the ship launched on September 17, 2016. The design has largely maintained the Kolkata class's hull form, propulsion machinery, mosy platform equipment and major weapons and sensors to benefit from series production.

<https://economictimes.indiatimes.com/news/defence/second-project-15b-guided-missile-destroyer-delivered-to-indian-navy/articleshow/95741178.cms>

## नवभारत टाइम्स

शुक्रवार, 25 नवंबर 2022

### भारतीय सेना को मिलेंगी Trained Eagles, पलभर में दुश्मन के ड्रोन को लपककर कर देंगी तबाह

दुश्मन के ड्रोन को नष्ट करने के लिए भारतीय सेना को जल्द ही प्रशिक्षित चील मिल सकती हैं, जो पलभर में ड्रोन को लपककर उसे नीचे गिरा सकती हैं। भारतीय सेना की मेरठ स्थित रीमाउंट वेटरिनरी कोर में इस काम के लिए कई चीलों को ट्रेड किया गया है। ये चील भारतीय सेना के ट्रेड डॉग्स के साथ मिलकर एंटी ड्रोन सिस्टम की तरह काम करेंगे और दुश्मन के ड्रोन को मार गिराएंगे। उत्तराखंड के औली में भारतीय सेना और अमेरिकी सेना के बीच चल रहे युद्धाभ्यास में इन एंटी ड्रोन चील और डॉग्स की ताकत को देखा जा सकेगा। सूत्रों के मुताबिक, युद्धाभ्यास के दौरान दिखाया जाएगा कि किस तरह ट्रेड चील और ट्रेड डॉग मिलकर दुश्मन के ड्रोन की भनक लगते ही एक टीम के तौर पर जुगलबंदी करते हैं और ड्रोन को मार गिरा सकते हैं। युद्धाभ्यास के दौरान चील एंटी ड्रोन मिशन को अंजाम देंगे और अमेरिकी सैनिक भी इस अपने किस्म के अनूठे एंटी ड्रोन सिस्टम को देखेंगे।

## डॉग के तेज कान और चील की तेज आंख लगाएंगे ड्रोन का पता

सूत्रों के मुताबिक, पिछले काफी वक्त से चीलों को मेरठ के रीमाउंट वेटरिनरी कोर में ट्रेड किया जा रहा था और अब उनकी ट्रेनिंग पूरी हो गई है। वे अब अपने मिशन के लिए तैयार हैं। चीलों की खासियत होती है कि वह अपने मजबूत पंखों और पंजों से अपने दुश्मन पर झपटते हैं। ड्रोन भी हवा में उड़ती चीज है, जिसे ट्रेड चील पलक झपकते ही झपट सकती हैं। इस तरह चील प्राकृतिक तौर पर ही ऐंटी ड्रोन रोल के लिए फिट हैं। सेना के ट्रेड डॉग और ट्रेड चील मिलकर ड्रोन का पता लगाएंगे और इसे नष्ट करेंगे। डॉग्स के तेज कान और चील की तेज आंखें इसमें मदद करेंगी। डॉग उन ध्वनि तरंगों को भी सुन सकते हैं जो इंसान के लिए सुन पाना मुश्किल है। तो जैसे ही दुश्मन का ड्रोन भारतीय इलाके में घुसेगा, उसकी ध्वनि तरंगों को डॉग पकड़ लेगा और अपने हैंडलर को अलर्ट करेगा। फिर उस दिशा में चील जाएगी और चील की तेज आंखों से ड्रोन बच नहीं पाएगा। चील पलक झपकते ही ड्रोन को अपने मजबूत पंखों से मार गिराएगी।

## सभी देश एंटी ड्रोन पर काम कर रहे हैं

ड्रोन के बढ़ते खतरे के बीच सभी देश एंटी ड्रोन सिस्टम पर काम कर रहे हैं। पिछले साल जम्मू एयरफोर्स स्टेशन में ड्रोन अटैक हुआ था। यह पहला ड्रोन अटैक था। इसके साथ ही पिछले कुछ वक्त में पाकिस्तान ने और आतंकियों ने भी ड्रोन का इस्तेमाल बढ़ाया है। आतंकियों तक हथियारों की सप्लाई की बात हो या नशीले पदार्थ को भारत भेजना, इन सब काम में ड्रोन का इस्तेमाल देखा गया है। ड्रोन की आसान उपलब्धता सुरक्षा एजेंसियों की चुनौती बढ़ा रही है। ड्रोन के साथ चुनौती यह है कि यह रेडार की पकड़ में भी नहीं आ पाता। रेडार एक तय ऊंचाई तक उड़ने वाली चीजों को ही पकड़ सकता है और छोटे ड्रोन उससे कम ऊंचाई पर उड़ते हैं। थोड़ा वजन उठाने वाले ड्रोन आराम से उपलब्ध भी हैं और कोई भी इनका इस्तेमाल कर सकता है। इन्हें कोई अपने घर की बालकनी से भी लॉन्च कर सकता है। हर ड्रोन अलग साइज के होते हैं। जरूरी नहीं कि ड्रोन हथियार ही उठाकर ले जाएं, ड्रोन ट्रिगर का भी काम कर सकता है और कहीं पर रखे विस्फोटक को ड्रोन के जरिए ऐक्टिवेट किया जा सकता है।

<https://navbharattimes.indiatimes.com/india/indian-army-will-soon-get-trained-eagle-to-destroy-enemy-drones-know-full-details-here/articleshow/95752057.cms>

## Business Standard

Fri, 25 Nov 2022

### Hindustan Aeronautics told to conduct Aero India 2023 in February

By Ajai Shukla

Hindustan Aeronautics Ltd (HAL), which would customarily be the country's premier exhibitor at Aero India 2023 in February, has instead been ordered by the defence ministry to focus on organising and conducting the air show instead. A letter sent on Wednesday by the Ministry of

Defence's (MoD) Department of Defence Production (DDP) to the Bengaluru-headquartered aerospace design and manufacturing company said: "It has been decided that HAL will be the nodal organisation on behalf of the MoD/DDP for the conduct of the 14th edition of Aero India 2023 (sic)." The letter, which was addressed directly to C B Ananthkrishnan, acting chief of HAL, has been reviewed in detail by <Business Standard>.

"Hon'ble Raksha Mantri (Defence Minister) has approved that the DDP will conduct the 14th edition of Aero India 2023 at Air Force Station, Yelahanka, Bengaluru, from 13th-17th February 2023," the letter said. A subordinate MoD department called the Defence Exhibition Organisation (DEO) is responsible for conducting defence exhibitions and air shows. From 1996 to 2017, it organised 11 Aero India shows in Bengaluru. However, in 2018, the DEO's perceived incompetence caused the DDP to shift the responsibility for conducting DefExpo 2018 to HAL, which went on to also organise the biennial Aero India shows in 2019 and 2021.

Bharat Electronics Ltd (BEL), which would also normally use the Aero India show to display its capabilities and to link up and form partnerships with other firms, has also been asked to pitch in with the conduct and organisation instead. "BEL, being a Bengaluru-based DPSU (defence public sector undertaking), will also be assigned roles and responsibilities towards the conduct of this mega exposition," said the DDP's letter. HAL officials and technical persons are expressing frustration at being pulled away from a range of delicately poised aerospace development projects that include design and development of the Tejas Mark 1A, Tejas Mark 2, the fifth-generation Advanced Medium Combat Aircraft, the sixth-generation Combat Autonomous Teaming System, the Dhruv advanced light helicopter, the Prachanda light combat helicopter and the light utility helicopter.

"HAL is no longer a subordinate facility of the MoD. A share of the company is now in the hands of the public and the MoD cannot prevent HAL from using Aero India 2023 as a business opportunity," said a senior HAL official. DEO officials say that organising an Aero India or Defence Expo show usually takes up about Rs 100 crore. While this amount is reimbursed by the MoD to HAL, managing the expenditure and keeping track of accounts takes up a large share of attention of HAL's and BEL's accounts departments. There is frustration among HAL officials, who complain that the company appears to have been made responsible for organising a defence exhibition every year. "Whilst the broad details of responsibilities for both DPSUs are enclosed, experience gained from previous shows is to be gainfully utilised to ensure the success of Aero India 2023," said the MoD letter.

When contacted for comments on why a production agency like HAL was being used to organise a defence exhibition, neither the MoD nor HAL responded.

[https://www.business-standard.com/article/companies/hindustan-aeronautics-told-to-conduct-aero-india-2023-in-february-122112401208\\_1.html](https://www.business-standard.com/article/companies/hindustan-aeronautics-told-to-conduct-aero-india-2023-in-february-122112401208_1.html)



**Press Information Bureau  
Government of India**

**Ministry of Defense**

*Thu, 24 Nov 2022*

## **Joint HADR Exercise Samanvay - 2022 to Commence at Air Force Station Agra**

Indian Air Force is conducting the Annual Joint Humanitarian Assistance and Disaster Relief (HADR) Exercise 'Samanvay 2022' from 28 November 2022 to 30 November 2022 at Air Force Station Agra. With an aim to assess the efficacy of institutional Disaster Management structures and contingency measures, the exercise will comprise a seminar on Disaster Management, a 'Multi Agency Exercise' involving static and flying displays of various HADR assets and a 'Table Top Exercise'. Along with involvement of various stakeholders from the country, the exercise will see participation by representatives from the ASEAN countries as well. Hon'ble Raksha Mantri, Shri Rajnath Singh will be Chief Guest for the Capability Demonstration events planned during the exercise on 29 November 2022.

Samanvay 2022 will promote a synergistic approach towards HADR by various national and regional stakeholders involved in Disaster Management including the Civil Administration, the Armed Forces, NDMA, NIDM, NDRF, DRDO, BRO, IMD, NRS and INCOIS. This multi agency engagement is expected to contribute in the evolution of institutional frameworks for effective communication, interoperability, cooperation and their application for successful conduct of HADR. The exercise also aims to provide a unique platform for exchange of domain knowledge, experience and best practices with the participating ASEAN member countries.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1878493>



*Thu, 24 Nov 2022*

## **Rajnath Singh Calls for Need to Counter Cross-Border Terrorism in 9th ASEAN Defence Ministers' Meet in Cambodia**

Defence Minister Rajnath Singh participated in the ninth ASEAN Defence Ministers' Meeting (ADMM) Plus in Siem Reap, Cambodia on November 23. During his address to the ADMM Plus forum, Rajnath Singh called for urgent and resolute global efforts to counter transnational and cross-border terrorism, terming it as the gravest threat to regional and global security. He pointed out that the global security environment has transformed fundamentally over the last few decades, with terrorist groups creating interlinkages across continents backed by new-age technologies to propagate ideologies, transfer money and recruit supporters. The ADMM Plus is



an annual meeting of Defence Ministers of ten ASEAN countries and its eight dialogue partner countries – India, USA, Russia, China, Australia, Japan, New Zealand and South Korea. The year 2022 also marks the 30th Anniversary of India-ASEAN relations.

The Defence Minister also drew the attention of the forum to the other security concerns that have emerged in the aftermath of the global pandemic, including challenges of Energy and Food Security. He stated that as a responsible member of the international community, India has worked with its partners, in extending humanitarian aid, medicines, vaccines and food grains on large scale. Singh reiterated India's commitment to nurturing practical, forward-looking and result-oriented cooperation between India and ADMM Plus countries for enhancing the maritime security in the region and safety of the global commons. He asserted that India advocates a free, open and inclusive Indo-Pacific region and calls for peaceful resolution of disputes while respecting the sovereignty and territorial integrity of all nations.

In this context, he stated that the ongoing ASEAN-China negotiations on the Code of Conduct in the South China Sea should be fully consistent with international law, in particular United Nations Convention on the Law of the Sea (UNCLOS) and should not prejudice the legitimate rights and interests of nations that are not party to these discussions. Singh also called upon all the member states to work together with a positive intent, towards a stable, safer and more secure world for future. Defence Secretary Giridhar Aramane, Chief of Integrated Defence Staff to the Chairman, Chiefs of Staff Committee (CISC) Air Marshal BR Krishna and other senior officials of the Ministry of Defence and Ministry of External Affairs also accompanied the Minister.

<https://www.financialexpress.com/defence/rajnath-singh-calls-for-urgent-need-to-counter-cross-border-terrorism-in-9th-asean-defence-ministers-meet-in-cambodia/2889072/lite/>

## The Tribune

*Thu, 24 Nov 2022*

### **ASEAN to Take Part in IAF Drill from Nov 28**

The Indian Air Force (IAF) will conduct its annual joint humanitarian assistance and disaster relief (HADR) exercise “Samanvay 2022” from November 28 to 30 at Agra. The objective of the exercise is to assess the efficacy of institutional disaster management structures and contingency measures. It will comprise a seminar on disaster management and a “multi-agency exercise” involving static and flying aspects of several assets needed for the HADR operations. ASEAN representatives and several stakeholders within the country will participate in the three-day exercise. The armed forces, National Disaster Response Force, Defence Research and Development Organisation and Border Roads Organisation will also be part of the “Samanvay 2022”. The exercise is expected to contribute to the evolution of institutional frameworks for effective communication, interoperability, cooperation and their application for successful conduct of the HADR operations. Defence Minister Rajnath Singh will be the chief guest at the capability demonstration planned during the exercise on November 29.

<https://www.tribuneindia.com/news/nation/asean-to-take-part-in-iaf-drill-from-nov-28-454419>



## **Indian Army Starts Training Programme at Seven Locations for Assam Police**

Indian army has started a training programme for Assam police. The forty weeks of training under the Indian Army has commenced at seven locations in Assam and Meghalaya. A defence spokesperson said that Indian Army and Assam police have been jointly operating to bring peace to the region since 90's. These joint operations have played a major role in bringing normalcy to a very large extent in state of Assam. Assam government has taken a step ahead to strengthen the state security mechanism by recruiting around two thousand seven hundred (2720) recruits including more than 300 women and raising five new commando battalions to strengthen the Assam Police.

He added Indian Army has extended its assistance to train Assam Police Commando Battalion trainees. The forty weeks training under Indian Army has already commenced at seven locations in Assam and Meghalaya. The training will be conducted over 40 weeks in two phases - Basic phase and the Advanced phase. The focus of Basic Military Training will be making trainees stronger both mentally and physically. In Advance Military Training trainees will be taught tactical combat skills as well as various policing aspects related to maintenance of law-and-order situations. This joint initiative will not only help in capacity building for the security architecture of the state, it will also further enhance synergy and capability to undertake joint operations between the state and armed forces.

<https://economictimes.indiatimes.com/news/defence/indian-army-starts-training-programme-at-seven-locations-for-assam-police/articleshow/95747656.cms>

## **Gujarat Varsity in Talks with Army, CAPF to Impart Drone Training**

Amid a surge in the use of drones in smuggling of narcotics, weapons and improvised explosive devices in Punjab and Jammu and Kashmir, Gujarat's Rashtriya Raksha University (RRU) is in discussions with the Indian Army and central armed police forces (CAPFs) to train their personnel in handling of drones. On Tuesday, the first batch of ten trainees completed their training at the RRU-DroneAcharya Remote Pilot Training Centre (RPTC). "There is a proliferation of drones in India and across the world. Besides policing and security, drones are being deployed in various sectors, including delivery of goods and irrigation," Lt Gen Asit Mistry, director at the RRU's School of Internal Security, Defence and Strategic Studies, told ET.

"There is also combatised use of drones as we have witnessed in the Russia-Ukraine war. India is also producing a large number of drones. But we need trained manpower to use them. "Mistry said the RRU is in talks with the Indian Army, CAPFs and Gujarat Police for imparting training in handling drones. "Armed forces are acquiring drones and they need trained people to operate them. When the demand comes from central forces, we will structure our courses as per their requirement," he said. "As per guidelines laid down by the Director General of Civil Aviation (DGCA), a standard certificate is for five days of training but we are offering eight days of training with three days of specialisation."

<https://economictimes.indiatimes.com/news/india/gujarat-varsity-in-talks-with-army-capf-to-impart-drone-training/articleshow/95723661.cms>



**NewsOnAIR**

*Thu, 24 Nov 2022*

## **Exercise Garuda Shakti: India, Indonesia Special Forces to Strengthen Defence Ties**

The Special Forces of India and Indonesia commenced the joint military exercise Garuda Shakti on November 21. The exercise is currently underway in Indonesia at Sangga Buana Training Area, Karawang. The eighth edition of Exercise Garuda Shakti focuses on enhancing understanding, cooperation and interoperability between the Special Forces of both armies. The goal of the joint exercise is to advance the special forces' skills. It also aims to share information on new weapons, equipment, tactics, techniques, and procedures, as well as lessons learned from previous operations. Focusing on a high level of physical fitness, tactical drills, techniques, and procedures, both armies have planned a 13-day comprehensive training schedule for joint training. The bilateral exercise will culminate with a 48-hour validation exercise.

The bilateral exercise also covers strikes on terrorist camps, training for special forces operations in jungle terrain, and a validation exercise that combines basic and advance special forces techniques. Additionally, this Special Exercise also provides an opportunity for soldiers of both armies to explore each other's culture and lifestyle to strengthen the defence ties. The joint training will help both armies get to know one another better and share their extensive combat experience in counterterrorism, regional security operations, and peacekeeping in a global setting. The exercise serves as an important platform for maintaining friendly ties between the two nations and is another step toward ensuring regional security.

<https://newsonair.com/2022/11/24/exercise-garuda-shakti-india-indonesia-special-forces-to-strengthen-defence-ties/>

## **IAF Set to Place Rs 1,400 cr Order for New Age Missiles to Destroy Enemy Radars**

In a major push to induct indigenously developed weapon systems, the Indian Air Force has moved a proposal worth over Rs 1,400 crore to the government for acquiring Rudram next-generation anti-radiation missiles (NGARM) to search and destroy enemy radar locations, informed defence officials. "A proposal for acquisition of advanced missiles developed by the Defence Research and Development Organization is with the Defence Ministry and a high-level meeting would soon be taking a call on it," defence officials told ANI. The next-generation anti-radiation missiles have already been tested by the Indian Air Force from its Sukhoi-30 fighter aircraft fleet and can destroy enemy radar locations during conflicts, they said. The destruction of radar systems can help the Indian Air Force to strike targets without detection, the officials said.

The NGARM can be fired from IAF fighters like the Sukhoi-30 and the Mirage-2000. It is accurate and has been developed with the capability to even track a radar system even if it is not operating. NGARM is India's first indigenously developed anti-radiation missile that has a speed of Mach two or twice the speed of sound. The tactical, air-to-surface anti-radiation missile is equipped with a passive homing head that tracks sources of radiation of a wide range of frequencies. It can lock into a target not only before launch but also after it has been launched. The NGARM induction would be a big boost for the Indian Air Force as it would help the force prepare for future wars with indigenous weapon systems. Recently, Air Chief Marshal VR Chaudhari stated that based on lessons learnt from the Ukraine-Russia war, the Indian Air Force would be focusing on inducting 'made in Indian weapons'.

<https://economictimes.indiatimes.com/news/defence/iaf-set-to-place-rs-1400-cr-order-for-new-age-missiles-to-destroy-enemy-radars/articleshow/95743081.cms>



Fri, 25 Nov 2022

## **IAF Chief Calls for Foreign Collaborations on Futuristic Fighter Jet Programme**

Chief of the Indian Air Force (IAF) Air Chief Marshal Vivek Ram Chaudhari has called for foreign collaborations for development of niche technologies for the indigenous AMCA Fifth Generation Fighter Aircraft programme as a hedge against timeline slippages. "Considering the timelines and niche technologies being looked at for AMCA, it would be prudent to have a back-up development/realisation plan in place to ensure availability of alternative systems and sensors in case indigenous plans fail to mature as per planned timelines," Air Chief Marshal Chaudhari told BW Businessworld in an exclusive interview. The Chief of Air Staff made this statement in response to a question on whether the IAF wants scope for foreign collaborations in the AMCA programme in areas other than jet engine technology.

While expressing full support for indigenisation programmes, Air Chief Marshal Chaudhari flagged the IAF's deep concern and scepticism over the ability of the Aeronautical Development Agency (ADA) of the Defence Research and Development Organisation (DRDO) and the public sector Hindustan Aeronautics Limited (HAL) to deliver on key indigenous fighter aircraft programmes on time. AMCA - the Advanced Medium Combat Aircraft - programme is due for a key milestone, the completion of the critical design review (CDR) by the end of 2022. The AMCA project director AK Ghosh has been recently quoted stating that the first prototype of India's futuristic fighter will roll out by end-2025 and the deadline for the first flight is 2026-27. The only significant foreign collaboration sought by the ADA is for the development of a 110 kN engine to power the futuristic fighter. The French Safran, British Rolls Royce and American General Electric are competing to offer collaboration backed by their respective Governments.

But now, the IAF Chief has advised "prudence" of foreign tie-ups as a back-up for development of "alternative systems and sensors" just in case the indigenous effort slips on deadlines. A Special Purpose Vehicle (SPV) led by ADA-HAL and also comprising private sector players has been envisaged for manufacturing AMCA once the development process is complete. Air Chief Marshal Chaudhari also emphasised that the AMCA programme is being led by the DRDO/ADA and that the IAF is rendering full support to the project, suggesting that the responsibility for delivering on time rests with the development agency and its production partners.

"AMCA programme is being led by DRDO/ ADA. IAF has a dedicated team at ADA Bangalore. Flight test crew at NFTC (National Flight Test Centre) are actively involved in the development activities. IAF is fully committed to the AMCA programme, for which an aggressive timeline has been set by DRDO," he stated. The IAF is widely reported to have committed itself to acquiring a minimum of 140 AMCA fighters in the Mk-1 and 2 variants. Having flagged the IAF's scepticism on stated deadlines, Air Chief Marshal Chaudhari stressed that there should be no doubt about the alignment of the Air Force to the Aatmanirbharta (self-reliance) agenda. "However, we would prefer key technologies to be indigenous to avoid any foreign dependence during the life cycle of the platform," he told BW Businessworld.

The IAF's fighter fleet modernisation plan hinges critically on the ability of the DRDO-ADA and the indigenous Defence Industrial Complex to deliver the AMCA and the Light Combat Aircraft (LCA) Mk-2 in time. The promise so far has been to start the manufacturing process for both the fighters by about 2030. Air Chief Marshal Chaudhari expressed the same anxiety with respect to the LCA Mk-2. "LCA Mk-2 was initially planned to be rolled out in 2018. CCS (Cabinet Committee on Security) approval for the design and development of the aircraft has been granted recently. Readiness for flight testing is envisaged by 2024 followed by induction from 2030-31. This is an aggressive timeline and we hope that ADA and HAL will be able to meet it," he stated.

A big worry for the IAF is the countdown to the phase-out of the MiG, Jaguar and Mirage-2000 fleets by the mid-2030s and the need to not just replenish the retirements but also move closer to the required numbers. Against an approved squadron strength of 42 fighter squadrons, the IAF numbers stand at 31 squadrons at the moment. The challenge for it is to ensure a fighter squadron strength of about 35 by 2035-36 in the face of the depletions on account of the retirements of the legacy aircraft amidst a decisive policy shift away from import of military equipment and reliance on indigenous design, development and manufacturing. Air Chief Marshal Chaudhari has repeatedly stressed that the requirement for 42 fighter squadrons is non-negotiable for ensuring preparedness for facing a two-front military challenge. The three residual MiG-21

Bison squadrons will be phased out by 2025. This will set the stage for the staggered retirement – or number plating - of the six ageing Jaguar squadrons, a process that is programmed to end by 2031-32. Thereafter, the MiG-29 and Mirage-2000 fleets will start getting phased out.

Air Chief Marshal Chaudhari also listed the IAF's expectations of the public sector HAL. "HAL should look at setting up a robust framework for support and sustenance of all its platforms. This would require an increased engagement with MSMEs and other private enterprises to ensure a complete supply chain. We also hope that the LUH (Light Utility Helicopter) and IMRH (Indian Multi Role Helicopter) programmes will progress as per the defined timelines," he stated.

<https://www.businessworld.in/article/IAF-Chief-Calls-For-Foreign-Collaborations-On-Futuristic-Fighter-Jet-Programme-/25-11-2022-455446/>



*Thu, 24 Nov 2022*

## **First Ever Franco-India-German Military Exercise Slated for 2024**

The first ever Franco-Indian-German military exercise is expected to take place in 2024. The drill will involve the militaries of the three countries. Talking about defence cooperation between India and Germany, in an exclusive interaction with Financial Express Online, German Ambassador Dr Phillip Ackermann says "The Franco-India-German military drill is set to take place in the years to come. Talks are going on. It is expected to be sometime in 2024." "We will have the three nations to do military cooperation and maneuver in the Indo Pacific in the years to come. So you will see more of Germany in this region, because our government policy sees this as an area of an area of tension. This is because of the self confident China, which concerns us and should worry us, and because of the Indo Pacific, Germany will be present more around this region," he adds.

According to reports, Germany's 2020 Indo-Pacific guidelines have identified India as one of its most important partners in the region.

### **Defence exports**

According to him "The German current government is extremely restrictive when it comes to selling armament or arms technology to a third country. However that has changed a bit, because since the war of aggression in Ukraine by the Russian Federation, we have started rethinking completely. And that includes to a certain extent, also our exports to friendly countries, and therefore, I would say in the coming months, we will have an assessment of defense relations with many countries. And that includes India. And that means that we might be much more forthcoming with exports."

### **Germany and Indo-Pacific Region**

"We have a year and a half ago, we drafted and agreed upon Indo-Pacific guidelines and that has led us to be much more present individually. In August we had the 'Ex Pitch Black' in Australia, where our airplanes were deployed to participate," he explained. Based on reports in the public

domain four German A 400M transport aircrafts joined 16 other countries in Exercise Pitch Black in Australia earlier this year. Financial Express Online has reported earlier that Ex Pitch Black took place in Australia and India participated for the second time this year. The first time was in 2018. There were countries including key NATO members, AUKUS, QUAD, UAE, Indonesia and others. And for the first time countries including Germany, Japan and the Republic of Korea participated.

In 2020, the Federal Government issued the policy guidelines for the Indo-Pacific and under that the cooperation with the Indo-Pacific countries is being expanded. Germany has in recent months started working on cutting down its dependency on China especially in critical areas. And following the ongoing war between Russia and Ukraine, European nations have started focusing more on their defence spending and are also rallying to the West led cause in the Indo-Pacific. Under the leadership of Chancellor Olaf Scholz the European nation has already started working towards expanding its partnership with countries including Japan, New Zealand, Australia and South Korea.

<https://www.financialexpress.com/defence/first-ever-franco-indian-german-military-exercise-slated-for-2024/2889617/lite/>

**#SWARAJYA**

*Thu, 24 Nov 2022*

## **Rafale-M for Indian Navy? French Defence Minister to Board INS Vikrant on 27 November, Report Says**

French Defence Minister Sebastien Lecornu, who will be in India later this month, is set to go onboard aircraft carrier INS Vikrant off the coast of Mumbai on 27 November, the Hindustan Times has reported. The Indian Navy is currently evaluating French aircraft manufacturer Dassault Aviation's Rafale-M and US-based Boeing's F/A-18 Super Hornet to augment its dwindling fleet of fighters currently made up of the troubled Russian-origin MiG-29Ks. Both Rafale-Ms and Super Hornets have demonstrated their ability to take off from a ski-jump platform of the kind that Indian aircraft carriers have. Ski-jump tests were carried out earlier this year at the shore-based facility at INS Hansa in Goa. Rafale-Ms and Super Hornets are in service with the French Navy and the US Navy, respectively. The two navies operate these from their nuclear-powered aircraft carriers.

Unlike India's two carriers, which use ski-jump (short take-off but arrested recovery or STOBAR) to help aircraft take off from their decks, the US and French carriers use catapult-assisted take-off (catapult assisted take-off but arrested recovery or CATOBAR) to operate aircraft. In the STOBAR system, aircraft are launched from a carrier using their own power with a ski-jump ramp on the bow of the carrier assisting take off. However, in the CATOBAR system, mechanical assistance is provided to the aircraft for take-off using a catapult, which is built into the carrier's flight deck. In both these systems, arrestor wires, which rapidly but smoothly decelerate an aircraft as it lands on deck, are used for recovery. With the induction of the first indigenous aircraft carrier Vikrant on 15 August this year, the Indian Navy will have two aircraft carriers but not enough fighters to keep both warships operational.



In 2017, the Navy had projected a requirement of 57 new fighters. But it has since downsized the requirement to 26 fighters as an indigenous fighter for aircraft carriers — the Twin-Engine Deck-Based Fighter — is being developed by the Aeronautical Development Agency. Dassault's Rafale-M has an edge over Boeing's F/A-18 as the Indian Air Force has already inducted two squadrons of the fighter, has set up maintenance facilities in the country and may contract for more Rafale. India's rapidly expanding defence partnership with France, which also has interests in the Indian Ocean, will also be considered when New Delhi decides on the procurement of fighters.

<https://swarajyamag.com/news-brief/rafale-m-for-indian-navy-french-defence-minister-to-board-ins-vikrant-on-27-november-report-says>



*Thu, 24 Nov 2022*

## **Indian Military would do well to Abstain from 'Irresponsible Rhetoric': Pakistan**

In the interest of peace for the region, the Indian military would do well to abstain from “irresponsible rhetoric and vitriolic communication to shore up electoral support for their political masters’ regressive ideology”, Pakistan said on Thursday. The statement from Pakistan’s armed forces spokesperson came after Northern Army chief Lt. Gen. Upendra Dwivedi’s remark that the Indian Army would carry out any order given by the Government while referring to Defence Minister Rajnath Singh’s comments on getting back Pakistan Occupied Kashmir (PoK). “The unwarranted statement of a high-ranking Indian Army Officer concerning Azad Jammu and Kashmir is an apt manifestation of Indian Armed Forces’ delusional mindset and showcases the vivid imprint of domestic political showboating on Indian military thought,” the Director General Inter-Services Public Relations (DG ISPR) said.

“The fallacious remarks and unfounded allegations of so called ‘launch-pads’ and ‘terrorists’ are an attempt to divert attention from Indian Army’s repressive use of force and gross human rights violations against innocent, unarmed Kashmiris striving for their right of self-determination, upheld by International Law and enshrined in U.N. Security Council Resolutions,” the statement said, while claiming that Pakistan’s military is a force for “good and a proponent of regional peace and stability”. “This desire for peace, however, is matched with our capability and preparation to thwart any misadventure or aggression against our territory, an assertion comprehensively validated on numerous occasions, including recently in the Balakot episode,” the statement added.

Speaking in Srinagar on October 28, Mr. Singh, in a reference to POK, said, “We’ve just started our journey northward. It will be complete only when we implement the resolution passed unanimously in Parliament on February 22, 1994, and accordingly reach our remaining parts such as Gilgit and Baltistan.” He also assured that all refugees of 1947 would “get their land and homes back.” Responding to questions on this from the media, Lt. Gen. Dwivedi said, “As far as the Indian Army is concerned, it will carry out any order given by the Government of India. Whenever such orders are given, we will always be ready for it.” Further, Lt. Gen. Dwivedi,



referring to the ceasefire agreement between India and Pakistan, said that the military was always ready to make sure that ceasefire understanding was never broken as it was in the interest of both nations, but if broken “at any time, we will give them a befitting reply”.

<https://www.thehindu.com/news/national/indian-military-would-do-well-to-abstain-from-irresponsible-rhetoric-pakistan/article66179064.ece>

## THE ECONOMIC TIMES

Fri, 25 Nov 2022

### Who is Pakistan's New Army Chief Asim Munir?



*Munir is currently serving as the army's quartermaster general*

Pakistan named Lieutenant-General Asim Munir on Thursday as chief of its army, an organisation that plays a hugely influential role in the governance of the nuclear-armed nation. His appointment coincides with a dispute between the military and former prime minister Imran Khan, who blames the army for playing a part in his ouster earlier this year and who has been leading anti-government protests since then.

**Here are some key facts about Munir.**

#### **Early Life**

Munir is the son of a schoolteacher who grew up in the garrison city of Rawalpindi, former military officials say. He received a prestigious award for officers known as the 'sword of honour' as top of his year at the military academy, an official told Reuters.

#### **Past Jobs**

In a country where the military has long played an outsized role in politics, Munir served in an area disputed with India that borders China and also in Saudi Arabia, a major financial supporter of Pakistan. Munir later served as chief of Pakistan's two most influential intelligence agencies - first Military Intelligence (MI) in 2017 and then the Inter-Services Intelligence (ISI) in 2018. He

was removed as ISI chief after just eight months on the request of then-prime minister Imran Khan. No reason was given for his removal.

### **Current Duties**

Munir is currently serving as the army's quartermaster general, in charge of supplies. He is also the most senior ranking general after the man he replaces as head of the armed forces, General Qamar Javed Bajwa. Munir assumes his three-year stint as army chief on Nov. 29, the 17th holder of the post since Pakistan won independence from Britain in 1947. That compares with about 30 prime ministers during the same period. A former general who worked with Munir described him as "clear-headed".

### **Challenges**

Munir must try to deliver on a pledge by his predecessor Bajwa to take the military out of politics. Little is known about Munir's own political affiliation but analysts are sceptical about the chances of Pakistan's army becoming an apolitical institution. Khan, who was wounded in a gun attack earlier this month during anti-government protests, is the latest in a long list of civilian leaders to blame the military for removing him from power. These include Nawaz Sharif, the longest-serving prime minister who was in power a total of 9 years over three tenures. The army has rejected any involvement in Khan's ouster, but analysts expect Munir to continue the military's efforts to keep Khan, a vocal critic, out of power.

<https://economictimes.indiatimes.com/news/defence/who-is-pakistans-new-army-chief-asim-munir/articleshow/95744241.cms>

## **THE ECONOMIC TIMES**

*Fri, 25 Nov 2022*

### **Pilots Hired to Help China Understand how Western Planes Operate**

China has recruited more than 30 former British military pilots including those who have flown sophisticated fighter jets. UK's Defence Ministry said that they are being recruited to train pilots of the Chinese Army. Chinese plans to counter the West and in the worst-case scenario, of a conflict, say over Taiwan, will then have prior knowledge of Western tactics as far as the air war is concerned, reported The HK Post. The UK confirmed that since 2019, former military pilots were being recruited by China. Post the Covid-19 pandemic cases of pilots going to China have reportedly gone up again. Notably, the hired pilots have experience flying across a variety of aircraft, including Typhoons, Jaguars, Harriers, and Tornados, reported The HK Post.

That the Chinese have attempted and perhaps succeeded to a degree in hiring retired air force pilots indicates that more countries could be involved in this espionage effort. The UK and Australia are already out in the open. The use of South Africa as an intermediary, however harmless, means that China may be using the African continent as a springboard to get retired pilots to China. In a sense, such activities should not come as a surprise to the West. The West has long been aware of China's ability to steal technology and then reverse engineer the same, reported The HK Post. China has today gone one step further by stealing Western manpower in the form of human resources with expertise in aerial combat.

The objective is to train Chinese pilots keeping in mind Western tactics in case of a future conflict. Also, these pilots could possibly fly Chinese fighter aircraft and suggest improvements to enhance combat performance, reported The HK Post. China has today gone one step further by stealing Western manpower in the form of human resources with expertise in aerial combat. The objective is to train Chinese pilots keeping in mind Western tactics in case of a future conflict. Also, these pilots could possibly fly Chinese fighter aircraft and suggest improvements to enhance combat performance, reported The HK Post. In October, Australia and the UK began probes into reports that their fighter pilots were planning to take up jobs in China to provide training to the pilots of the PLA air force.

Retired Western air force pilots are reportedly being hired through intermediaries, in this case, a flying academy in South Africa. The UK government approached their pilots and asked them to stop getting involved with China, reported The HK Post. The UK Ministry of Defence (MoD) has stated that it would take steps to prevent its retired and serving pilots from training Chinese forces. MoD spokesperson said, "We are taking decisive steps to stop Chinese recruitment schemes attempting to headhunt serving and former UK Armed Forces pilots to train People's Liberation Army personnel in the People's Republic of China". The MoD claimed that China had been luring former British air force pilots with "large sums of money" to pass on their expertise and relevant training to the Chinese military. Some of the packages offered as much as Pound 237,911 (USD 270,000), reported The HK Post.

The UK first became aware of a small number of cases of former military pilots being recruited in 2019, which were dealt with on a case-by-case basis. The Covid-19 pandemic slowed attempts down when travel to China became next to impossible, but the attempts have since increased. Australia's Defence Minister Richard Marles initiated an inquiry into whether his country's pilots were being recruited by Chinese defence forces. Actions will be taken if systemic weaknesses are found to be putting Australian military secrets at risk, reported The HK Post. An initial investigation into reports of Australian fighter pilots having been approached by China uncovered enough evidence to justify a more extensive inquiry. Allegations appeared of former Australian pilots joining the South African flight school mentioned earlier. In October, Australian authorities arrested Daniel Duggan, a former US Marine Corps Officer, following a US request. Duggan runs a business called Top Gun Australia, a private adventure flight company. The arrested officer is reported to have worked in China also, reported The HK Post.

<https://economictimes.indiatimes.com/news/defence/pilots-hired-to-help-china-understand-how-western-planes-operate/articleshow/95753228.cms?from=mdr>



*Thu, 24 Nov 2022*

## **Russia Blames 'Foreign and Ukrainian Air Defence' Systems for Damages in Kyiv**

The Kremlin completely denied Russia's involvement in the latest missile strikes on Ukrainian capital Kyiv and said that the damage was done by foreign and Ukrainian air defence missiles. Several energy infrastructures came under attack on Wednesday as targeted missiles hit the capital of Ukraine. "Not a single strike was made on targets within the city of Kyiv," the Russian

defence ministry said. Any damage was "the result of the fall of missiles from foreign and Ukrainian air defence systems located in residential areas of the Ukrainian capital," the ministry added, said an AFP report. In the aftermath of the attack, Ukrainian President Volodymyr Zelensky and other cabinet ministers said that the attempts to regain power in various parts of Kyiv was deeply impacted by the fresh round of missile strikes and the official reports also claimed that three, including a teenager, were killed.

"The leadership of Ukraine has every opportunity to bring the situation back to normal," Kremlin spokesman Dmitry Peskov said before adding that they just need to agree to Russia's conditions. Meanwhile, Kyiv mayor Vitali Klitschko said that the power was still cut off for many parts of the city and it had started affecting the water services for a majority of the city's residents. "Seventy per cent of the capital remains without electricity. Energy companies are making every effort to return it as soon as possible," he told Kyiv Post when asked about the latest developments. Earlier, the Union Nations criticised Russia's constant attack on key infrastructures around the Ukrainian capital and said that the winter can be "life threatening" for around 10 million citizens.

<https://www.wionews.com/world/russia-blames-foreign-and-ukrainian-air-defence-systems-for-damages-in-kyiv-537151>

## THE ECONOMIC TIMES

*Thu, 24 Nov 2022*

### **After Russian Retreat, Ukrainian Military Plans Next Move**

The Ukrainian sniper adjusted his scope and fired a .50-caliber bullet at a Russian soldier across the Dnieper River. Earlier, another Ukrainian used a drone to scan for Russian troops. Two weeks after retreating from the southern city of Kherson, Russia is pounding the town with artillery as it digs in across the Dnieper River. Ukraine is striking back at Russian troops with its own long-distance weapons, and Ukrainian officers say they want to capitalize on their momentum. The Russian withdrawal from the only provincial capital it gained in nine months of war was one of Moscow's most significant battlefield losses. Now that its troops hold a new front line, the army is planning its next move, the Ukrainian military said through a spokesman. Ukrainian forces can now strike deeper into the Russian-controlled territories and possibly push their counteroffensive closer to Crimea, which Russia illegally captured in 2014.

Russian troops continue to establish fortifications, including trench systems near the Crimean border and some areas between the Donetsk and Luhansk regions in the east. In some locations, new fortifications are up to 60 kilometers (37 miles) behind the current front lines, suggesting that Russia is preparing for more Ukrainian breakthroughs, according to the British Ministry of Defense. "The armed forces of Ukraine seized the initiative in this war some time ago," said Mick Ryan, military strategist and retired Australian army major general. "They have momentum. There is no way that they will want to waste that." Crossing the river and pushing the Russians further back would require complicated logistical planning. Both sides have blown up bridges across the Dnieper.

"This is what cut Russians' supply lines and this is also what will make any further Ukrainian advance beyond the left bank of the river more difficult," said Mario Bikarski, an analyst with the Economist Intelligence Unit. In a key battlefield development this week, Kyiv's forces

attacked Russian positions on the Kinburn Spit, a gateway to the Black Sea basin, as well as parts of the southern Kherson region still under Russian control. Recapturing the area could help Ukrainian forces push into Russian-held territory in the Kherson region "under significantly less Russian artillery fire" than if they directly crossed the Dnieper River, said the Institute for the Study of War, a Washington-based think tank.

Control of the area would help Kyiv alleviate Russian strikes on Ukraine's southern seaports and allow it to increase its naval activity in the Black Sea, the think tank added. Some military experts say there's a possibility the weather might disproportionately harm poorly-equipped Russian forces and allow Ukraine to take advantage of frozen terrain and move more easily than during the muddy autumn months, ISW said. Russia's main task, meanwhile, is to prevent any further retreats from the broader Kherson region and to strengthen its defense systems over Crimea, said Bikarski, the analyst. Ryan, the military strategist, said Russia will use the winter to plan its 2023 offensives, stockpile ammunition and continue its campaign targeting critical infrastructure including power and water plants. Russia's daily attacks are already intensifying. Last week a fuel depot was struck in Kherson, the first time since Russia withdrew. This week at least one person was killed and three wounded by Russian shelling, according to the Ukrainian president's office. Russian airstrikes damaged key infrastructure before Russia left, creating a dire humanitarian crisis.

Coupled with the threat of attack, that is adding a layer of stress, say many who weathered Russia's occupation and are leaving, or considering it. Ukrainian authorities this week began evacuating civilians from recently liberated parts of Kherson and Mykolaiv regions, fearing lack of heat, power and water due to Russian shelling will make winter unlivable. Boarding a train on Monday, Tetyana Stadnik has decided to go after waiting for the liberation of Kherson. We are leaving now because it's scary to sleep at night. Shells are flying over our heads and exploding. It's too much," she said. "We will wait until the situation gets better. And then we will come back home." Others in the Kherson region have decided to stay despite living in fear. "I'm scared," said Ludmilla Bonder a resident of the small village of Kyselivka. "I still sleep fully clothed in the basement."

<https://economictimes.indiatimes.com/news/defence/after-russian-retreat-ukrainian-military-plans-next-move/articleshow/95735220.cms>

## Science & Technology News

INDIA  
TODAY

*Thu, 24 Nov 2022*

### **This is What ISRO is Launching into Space with PSLV-C54 Mission on Saturday**

The Indian Space Research Organisation is set to conduct its fifth launch of the year with the Polar Satellite Launch Vehicle.. This will be the 56th flight of SLV and 24th flight of the PSLV-



XL version. India's premier launch vehicle will blast off from the launchpad with the Earth Observation Satellite (EOS-06) and eight nano-satellites which have a lift-off mass of 321 tonnes. The mission comes on the back of Isro launching India's first privately-made rocket, Vikram-S by startup Skyroot Aerospace from the sounding rocket complex earlier this month. "The Primary satellite (EOS-06) will be separated in Orbit-1. Subsequently, orbit change is planned by using two Orbit Change Thrusters (OCTs) introduced in the Propulsion Bay Ring of the PSLV-C54 Vehicle," Isro said in a release. The Passenger Payloads (PPLs) will be separated in Orbit-2.



*ISRO is launching a total of nine satellites into space on Saturday*

### **What all is ISRO Launching with Pslv-C54 Mission?**

ISRO is launching a total of nine satellites into space on Saturday, which includes the primary satellite EOS-06 and eight nanosatellites that have been developed by private companies and also jointly by India and Bhutan.

### **OCEANSAT-3**

The Earth Observation Satellite-06 is the third-generation satellite in the Oceansat series and is designed to provide continuity services of Oceansat-2 spacecraft with enhanced payload specifications as well as application areas. The Oceansat-3 is being launched with three major instruments Ocean Color Monitor (OCM-3), Sea Surface Temperature Monitor (SSTM), Ku-Band Scatterometer (SCAT-3), and ARGOS.

The main objective of the mission is to ensure the data continuity of ocean colour and wind vector data to sustain the operational applications, improve the applications, some additional datasets such as sea surface temperature and more number of bands in the optical region, develop/improve related algorithms and data products to serve in well-established application areas and to enhance the mission utility. The Oceansat series of satellites are used for earth observation and monitoring water bodies. The first Oceansat was launched in a Polar Sun

Synchronous orbit nearly 720 kilometers above Earth in 1999. Oceansat-2 was blasted off onboard the PSLV-C14 mission in 2009.

### **Joint India-Bhutan Mission**

ISRO will launch ISRO Nano Satellite-2 for Bhutan (INS-2B) spacecraft with PSLV-C54 mission. INS-2B will have two payloads, namely NanoMx and APRS-Digipeater. NanoMx is a multispectral optical imaging payload developed by Space Applications Centre (SAC). APRS-Digipeater payload is jointly developed by DITT Bhutan and URSC. Apart from INS-2B, PSLV-C-54 will also carry Anand, a technology demonstrator nano satellite, which is aimed at demonstrating the capabilities and commercial applications of miniaturized earth-observation cameras. The spacecraft has also been integrated with Astrocast, a 3U spacecraft on a technology demonstration mission for the Internet of Things (IoT).

Meanwhile, Thybolt is also being launched, which is a communication payload to enable rapid technology demonstration and constellation development for multiple users. It also demonstrates Store-and-Forward functionality for authorized users in the amateur frequency band. The satellites will be deployed using Dhruva Space Orbital Deployer to perform the specific mission operations for a minimum lifetime of a year.

<https://www.indiatoday.in/science/story/isro-pslv-c54-mission-oceansat-eos-06-nano-satellites-sriharikota-2301072-2022-11-24>



*Thu, 24 Nov 2022*

## **ISRO's RH-200 Sounding Rocket Records 200th Consecutive Successful Flight**

The RH-200 Rohini sounding rocket recorded its 200th consecutive successful launch on Wednesday from Thumba here. The milestone event was witnessed by former President Ram Nath Kovind, Indian Space Research Organisation (ISRO) chairman S. Somanath, former chairman G. Madhavan Nair and senior officials and veterans of the space agency. The small rocket lifted off at 11.55 a.m. from the launchpad at the Thumba Equatorial Rocket Launching Station (TERLS) at the Vikram Sarabhai Space Centre (VSSC). Sounding rockets are used by the scientific community for carrying out experiments on meteorology, astronomy and similar branches of space physics. The 200th consecutive successful flight stands testimony to the commitment of Indian rocket scientists towards unmatched reliability demonstrated over the years, the VSSC said in a statement 'It is indeed a great feeling to get connected with a milestone event of India's space programme,' Mr. Kovind said, addressing the ISRO community before the lift-off.

The entire nation is proud of the R&D community of the country at this historic moment, he was quoted as saying in a statement issued by VSSC. November is a significant month for the Indian space programme as it was on November 21, 1963 that the first sounding rocket (a U.S.-made Nike-Apache rocket) lifted off from the Indian soil, he said. Mr. Kovind also recalled the contributions made by pioneers such as Vikram Sarabhai, Satish Dhawan and A. P. J. Abdul Kalam to the Indian space programme, the statement said. The RH-200 is a solid motor-powered



expendable rocket capable of climbing up to a height of 70 km bearing payloads designed to study the upper atmosphere. VSSC director S. Unnikrishnan Nair, former director P. S. Veeraraghavan, Liquid Propulsion Systems Centre director V. Narayanan, ISRO Inertial Systems Unit director Sam Dayala Dev, ISRO Propulsion Complex director Badarinarayana Murthy were also present.

<https://www.thehindu.com/news/national/kerala/isros-rh-200-sounding-rocket-records-200th-consecutive-successful-flight/article66174909.ece>



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## **New study on Behaviour of Charged Particles in a Magnetic Field Under Ultra-Cold Temperatures can Help Control Noise in Quantum Technology**

A new study conducted by Bengaluru-based scientists has thrown fresh light on how a charged particle in contact with an environment in the presence of a magnetic field behaves when it is subjected to ultra-cold temperatures. Scientists involved in the study have said that the latest findings could deepen existing knowledge and explore ways to control noise in the domain of quantum technology. Quantum technology is too vulnerable to disturbances in the environment that corrupt the information stored in quantum computers, thus understanding the role of noise in quantum technology and finding ways to control it has long been a challenge for scientists.

Physicists from the Raman Research Institute (RRI), an autonomous institute funded by the Department of Science and Technology, Govt. of India, and TIFR - International Centre for Theoretical Sciences (ICTS), probed the role of noise in quantum technology and the evolving area called quantum Brownian motion. They found how noise in the quantum domain can affect a charged particle in a magnetic field and traced the role of quantum noise in the decay of correlations at ultra-cold temperatures in the context of a charged particle in a magnetic field in the research published recently in the journal *Physica A: Statistical Mechanics and its Applications*. Brownian motion, the random motion of particles when suspended in a fluid, forms one of the foundational pillars of physics, thanks to Albert Einstein's seminal work in this area. Quantum Brownian motion is a class of possible dynamics for an open quantum, continuous degree of freedom.

In the past, researchers have studied the behaviour of a neutral Brownian particle in a similar context. However, the researchers said a theoretical study involving the slow late time dynamics of a charged Brownian particle in a magnetic field applicable at ultra-cold temperatures is a first.

The study makes predictions about the nature of decay of factors called the position correlation function, the position-velocity correlation function, and the velocity autocorrelation function in the quantum domain accessible via ultra-cold atom experiments. The predictions can be tested by considering a charged particle in a magnetic field at ultra-cold temperatures (of the order of a few nano Kelvin) in an optical molasses which mimics a viscous environment. "In the classical

domain of high temperatures, correlations decay very fast at long times. In contrast, in the low-temperature domain, the decay of correlations slows down considerably. We study how the magnetic field and the harmonic oscillator trap confining the particle, affect the decay of correlations in the low temperature quantum domain,” said Professor Supurna Sinha, Faculty member in Theoretical Physics, and one of the co-authors of the paper titled ‘Long-time tails in Quantum Brownian Motion of a charged particle in a magnetic field’.

While the strength of the magnetic field affects the amplitude of the decay, this decay slows down when quantum fluctuations dominate over thermal fluctuations, noted Suraka Bhattacharjee, a postdoctoral fellow at RRI and the paper's lead author. This work is an excellent example of the inter-theme research at RRI, in this case between theoreticians and experimentalists at the Quantum Mixtures laboratory, a part of the cluster of quantum laboratories at RRI. In continuing theoretical work along similar lines, this group is currently trying to understand the behaviour of a quantum Brownian particle with a spin, a study of which is underway.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1878526>

