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A Daily service to keep DRDO Fraternity abreast with DRDO
Technologies, Defence Technologies, Defence Policies,
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CONTENTS

S. No.	TITLE	Page No.
	DRDO News	1-5
	DRDO Technology News	1-4
1.	डीआरडीओ ने आकाश आयुध प्रणाली (भारतीय सेना संस्करण) के सीलबंद विवरण को मिसाइल सिस्टम क्वालिटी एश्योरेंस एजेंसी को सौंपा	<i>पत्र सूचना कार्यालय</i> 1
2.	DRDO Hands Over Authority Holding Sealed Particulars of Akash Weapon System (Indian Army Version) to Missile Systems Quality Assurance Agency	<i>Press Information Bureau</i> 2
3.	आकाश मिसाइल के उत्पादन के और करीब पहुंचा भारत, DRDO ने तकनीक से संबंधित जानकारियां MSQAA को सौंपीं	<i>जागरण</i> 3
4.	DRDO Hands Over Authority Holding Sealed Particulars of Akash Missile	<i>The Indian Express</i> 4
	DRDO on Twitter	5-5
	Defence News	6-43
	Defence Strategic: National/International	6-43
5.	भारतीय नौसेना के युद्धपोत शिवालिक और कमोर्टा का वियतनाम में हो ची मिन्ह सिटी का दौरा	<i>पत्र सूचना कार्यालय</i> 6
6.	Indian Navy Ships Shivalik and Kamorta Visit Ho Chi Minh City, Vietnam	<i>Press Information Bureau</i> 7
7.	Navy Ready to Showcase Combat Power on Sunday	<i>The Times of India</i> 7
8.	मुंबई में रक्षा सलाहकार समिति की बैठक के दौरान रक्षा मंत्री ने कहा कि भारतीय नौसेना एवं भारतीय तटरक्षक को देश की समुद्री सीमाओं की रक्षा के लिए नवीनतम जहाजों और हथियारों से लैस किया जा रहा है	<i>पत्र सूचना कार्यालय</i> 8
9.	Indian Navy & Indian Coast Guard being Equipped with Latest Ships & Weapons to Protect Country's Maritime Borders, Says Raksha Mantri During Consultative Committee for Defence Meeting In Mumbai	<i>Press Information Bureau</i> 9
10.	PM Modi lauds Indian Navy on Navy Day	<i>The Economic Times</i> 10
11.	Top Brass of Defence Forces Pay Homage at National War Memorial on Navy Day	<i>Business Standard</i> 10
12.	Navy Focusing on Underwater Capabilities: ENC Chief	<i>Deccan Chronicle</i> 12
13.	Spectacular Show of Prowess Marks Navy Day Celebration in Vizag	<i>The Economic Times</i> 13
14.	भारतीय नौसेना के लिए 2022 यूं बनामील का पत्थर	<i>नवभारत टाइम्स</i> 14
15.	2047 तक आत्मनिर्भर बनेगी नेवी, सरकार को दिया भरोसा	<i>नवभारत टाइम्स</i> 17
16.	The Project 75 (I) for the Next-Gen Submarine will be Cleared by Next Year; a New Plan for Minesweepers, Says Navy Chief	<i>Financial Express</i> 18
17.	New Aircraft Carrier, Drones, Fighters in Latest Navy Boost	<i>Hindustan Times</i> 20
18.	Superior Aircraft Carrier Put on Hold, Indian Navy Looks at Repeat Order of INS Vikrant	<i>India Today</i> 22
19.	Why Navy has Put 'On Hold' its Plans to Acquire a Third Aircraft Carrier	<i>India Today</i> 23
20.	Keeping Eye on China Spy Ships in Indian Ocean region: Navy	<i>The Asian Age</i> 24
21.	MoD Shipyards have Rs 81K crore Orders: Govt	<i>The Tribune</i> 26
22.	Indian Army's Bid to Acquire New Bulletproof Jackets to Leave Out Innovators, Startups	<i>The Economic Times</i> 26

23.	IAF Considers Replacing AN-32 with C-295 to Modernise Fleet	<i>Hindustan Times</i>	27
24.	Imperative for India to Monitor Pakistan's Aberrant Nature: Lt Gen (retd) Kamal Davar	<i>The Economic Times</i>	28
25.	A Tale of Two Wars	<i>The Tribune</i>	29
26.	Military Literature Festival: Scholar-Warrior, Army's Ethos Changing, Says Ex-Commander	<i>The Tribune</i>	31
27.	Modern Tech Key to Fighting War: Experts	<i>The Tribune</i>	32
28.	'None of China's Business': After India's Comeback, US Diplomat Skewers Beijing	<i>Hindustan Times</i>	33
29.	दुनिया का सबसे एडवांस लड़ाकू विमान B-21 लॉन्च:राफेल से भी 2 पीढ़ी आगे; इसे पकड़ सके अभी तक ऐसा रडार नहीं बना	<i>दैनिक भास्कर</i>	34
30.	China Setting up Military Base in Indo-Pacific Region	<i>The Tribune</i>	38
31.	Turkish Indigenous VLS 'MIDLAS' Performs First Ever Launch	<i>Naval News</i>	39
32.	US Air Force Chief: Military Must 'Pick Some Winners' Among Startups	<i>Defense News</i>	40
33.	Pentagon Chief: US Faces Pivotal Years in Countering China	<i>Defense News</i>	41
34.	Bayraktar TB2 Drones 'Out of Action' from Ukraine War; Russia's Air Defense or Diplomacy behind their Disappearance?	<i>The Eurasian Times</i>	42

Science & Technology News

44-49

35.	ISRO's Open Infrastructure is Giving Wings to Startups	<i>The Economic Times</i>	44
36.	Three Chinese Astronauts Return Safely after 6 Months	<i>The Pioneer</i>	46
37.	Researchers Develop System for Improved Latent Fingerprint Recognition	<i>The Print</i>	47
38.	China-Based Hackers at Play in AIIMS-Delhi	<i>The Times of India</i>	48



पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

रविवार, 04 दिसंबर 2022

डीआरडीओ ने आकाश आयुध प्रणाली (भारतीय सेना संस्करण) के सीलबंद विवरण को मिसाइल सिस्टम क्वालिटी एश्योरेंस एजेंसी को सौंपा

रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) ने 03 दिसंबर, 2022 को हैदराबाद में आकाश आयुध प्रणाली (भारतीय सेना संस्करण) के सीलबंद विवरण (एचएसपी) को मिसाइल सिस्टम क्वालिटी एश्योरेंस एजेंसी (एमएसक्यूए) से सम्बंधित प्राधिकरण को सौंप दिया है। यह प्रक्रिया डिफेंस रिसर्च एंड डेवलपमेंट लेबोरेटरी (डीआरडीएल) में आयोजित की गई थी, जिसने एक नोडल एजेंसी के रूप में आकाश आयुध प्रणाली को तैयार तथा विकसित किया है। एचएसपी हस्तांतरण के हिस्से के रूप में तकनीकी विनिर्देश व गुणवत्ता दस्तावेज एवं पूर्ण हथियार प्रणाली घटकों की ड्राइंग को प्रोजेक्ट आकाश द्वारा एमएसक्यूए को सौंपा गया।

रक्षा मंत्री श्री राजनाथ सिंह ने एचएसपी हस्तांतरण को एक ऐतिहासिक अवसर करार देते हुए डीआरडीओ, भारतीय सेना व उद्योग जगत को बधाई दी है। उन्होंने विश्वास व्यक्त किया कि यह रक्षा सेवाओं की आवश्यकता को पूरा करने में एक लंबा रास्ता तय करेगा। रक्षा अनुसंधान एवं विकास विभाग के सचिव और डीआरडीओ के अध्यक्ष डॉ. समीर वी कामत ने प्रोजेक्ट आकाश टीम को मिसाइल क्लस्टर से एमएसक्यूए में मिसाइल तथा मल्टीपल ग्राउंड सिस्टम वाली ऐसी जटिल प्रणाली के लिए पहले एचएसपी हस्तांतरण के लिए बधाई दी है। उन्होंने कहा कि स्थानांतरण प्रक्रिया भविष्य की मिसाइल प्रणालियों के लिए रोडमैप को तैयार करेगी, जो अभी उत्पादन के अधीन हैं।

आकाश पहली अत्याधुनिक स्वदेशी सतह से हवा में मार करने वाली मिसाइल प्रणाली है, जो लगभग एक दशक से सशस्त्र बलों के साथ भारतीय आकाश की रक्षा तथा राष्ट्रीय सुरक्षा प्रदान कर रही है। इसे भारतीय सेना और भारतीय वायु सेना द्वारा 30,000 करोड़ रुपये के ऑर्डर मूल्य के साथ शामिल किया गया है, जो स्वदेशी मिसाइल प्रणाली के लिए सबसे बड़े सिंगल सिस्टम ऑर्डर में से एक है। डीआरडीएल के अलावा, कई अन्य डीआरडीओ प्रयोगशालाएं इस रक्षा प्रणाली के विकास में शामिल हैं। इनमें रिसर्च सेंटर इमारत, इलेक्ट्रॉनिक्स और रडार विकास प्रतिष्ठान, अनुसंधान एवं विकास प्रतिष्ठान (इंजीनियर), एकीकृत परीक्षण रेंज, आयुध अनुसंधान एवं विकास प्रतिष्ठान, उच्च ऊर्जा सामग्री अनुसंधान प्रयोगशाला और वाहन अनुसंधान विकास प्रतिष्ठान प्रमुख हैं। यह प्रणाली भारत डायनेमिक्स लिमिटेड, भारत इलेक्ट्रॉनिक्स लिमिटेड, लार्सन एंड टुब्रो, टाटा एडवांस्ड सिस्टम्स लिमिटेड, इलेक्ट्रॉनिक्स कॉर्पोरेशन ऑफ इंडिया लिमिटेड, बीईएमएल लिमिटेड के साथ-साथ माइक्रो, स्मॉल एंड मीडियम एंटरप्राइजेज और अन्य रक्षा उद्योग भागीदारों द्वारा निर्मित की गई है।

<https://pib.gov.in/PressReleasePage.aspx?PRID=1880800>



Press Information Bureau
Government of India

Ministry of Defence

Sun, 04 Dec 2022

DRDO Hands Over Authority Holding Sealed Particulars of Akash Weapon System (Indian Army Version) to Missile Systems Quality Assurance Agency

Defence Research and Development Organisation (DRDO) handed over Authority Holding Sealed Particulars (AHSP) of Akash Weapon System (Indian Army Version) to Missile Systems Quality Assurance Agency (MSQAA) in Hyderabad on December 03, 2022. The handing over was held at Defence Research and Development Laboratory (DRDL) which, as a nodal agency, has designed and developed the Akash weapon system. The Technical Specification & Quality Document and the drawing of complete weapon system elements were sealed and handed over by Project Akash to MSQAA as part of AHSP transfer.

Raksha Mantri Shri Rajnath Singh has congratulated DRDO, Indian Army and the industry, terming the AHSP transfer as a landmark event. He exuded confidence that this would go a long way in fulfilling the requirement of services. Secretary, Department of Defence R&D and Chairman DRDO Dr Samir V Kamat congratulated the Project Akash team for first AHSP transfer from Missile cluster to MSQAA for such a complex system involving missile and multiple ground systems. He said, the transfer process will enable the roadmap for future missile systems, which are under production.

Akash is the first state-of-the-art indigenous surface-to-air missile system which has been with Armed Forces for nearly a decade defending the Indian skies and providing national security. It is inducted by Indian Army and Indian Air Force with order value worth Rs 30,000 crore, which is one of the largest single system orders for indigenous missile system. Apart from DRDL, a number of other DRDO labs are involved in the development of the system. These include Research Centre Imarat; Electronics & Radar Development Establishment; Research & Development Establishment (Engineers); Integrated Test Range; Armament Research & Development Establishment; High Energy Materials Research Laboratory and Vehicles Research Development Establishment. The systems are produced by Bharat Dynamics Limited, Bharat Electronics Limited, Larsen & Toubro, Tata Advanced Systems Limited, Electronics Corporation of India Limited, BEML Limited along with Micro, Small and Medium Enterprises and other industries partners.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1880774>



रविवार, 04 दिसंबर 2022

आकाश मिसाइल के उत्पादन के और करीब पहुंचा भारत, DRDO ने तकनीक से संबंधित जानकारियां MSQAA को सौंपीं

आकाश शस्त्र प्रणाली की तकनीक से संबंधित सभी गोपनीय जानकारियां रक्षा अनुसंधान एवं विकास संगठन (DRDO) ने मिसाइल सिस्टम्स क्वालिटी एस्योरेंस एजेंसी (MSQAA) को सौंप दी है। जल्द ही एजेंसी थलसेना के लिए शस्त्र प्रणाली के संस्करण के लिए आवश्यक परीक्षण करेगी। स्वदेशी हथियारों के विकास और उत्पादन के लिए यह प्रक्रिया आवश्यक है।

डीआरडीओ ने जानकारियों को MSQAA को सौंपा

रक्षा मंत्रालय ने बताया है कि डीआरडीओ की ओर से अधिकृत अधिकारियों ने हैदराबाद में हुए समारोह में ये जानकारियां सील पैकेटों में एमएसक्यूए को सौंपीं। सौंपे गए पैकेटों में शस्त्र प्रणाली से संबंधित सारी जानकारियां, उसका माडल, उसके परीक्षण की रिपोर्ट आदि हैं।

रक्षा मंत्री ने दी बधाई

रक्षा मंत्री राजनाथ सिंह ने इस मौके पर डीआरडीओ, भारतीय सेना और औद्योगिक जगत को बधाई दी है। कहा है कि इससे हम अत्याधुनिक आकाश शस्त्र प्रणाली का उत्पादन कर उसे सेना में शामिल करने के और करीब पहुंच गए हैं। उन्होंने विश्वास जताया कि यह शस्त्र प्रणाली सेनाओं की जरूरतों को लंबे समय तक पूरा करेगी।

आकाश क्या है?

आकाश देश में विकसित खास तरह का सतह से आकाश में मार करने वाला मिसाइल सिस्टम है। यह सिस्टम थलसेना और वायुसेना के उपयोग में आएगा। इसके लिए 30 हजार करोड़ रुपये मूल्य का क्रय आदेश दिए जाने की उम्मीद है। यह भारतीय सेनाओं द्वारा देश में निर्मित किसी हथियार की सबसे बड़ी खरीद होगी।

<https://www.jagran.com/news/national-india-moves-closer-to-production-of-akash-missile-drdo-hands-over-technology-related-information-to-msqaa-23244475.html>



Sun, 04 Dec 2022

DRDO Hands Over Authority Holding Sealed Particulars of Akash Missile

In an important milestone for the Army version of the Akash Surface to Air Missile System, the Defence Research and Development Organisation (DRDO) handed over Authority Holding Sealed Particulars (AHSP) to Missile Systems Quality Assurance Agency (MSQAA) on Saturday. The Akash missile system has been developed by a group of DRDO laboratories, including three from Pune. The AHSP transfer marks the successful establishment of production of Akash missile system, its launchers, battery command posts and all the allied systems as well as successful establishment of quality assurance processes.

The handing over ceremony was held at Hyderabad-based Defence Research and Development Laboratory (DRDL), which, as a nodal agency, has designed and developed the Akash weapon system. The technical specification and quality documents and the drawing of complete weapon system elements were sealed and handed over by Project Akash to the MSQAA as part of the AHSP transfer. A press statement from the Ministry of Defence said Defence Minister Rajnath Singh congratulated DRDO, Indian Army and the industry, terming the AHSP transfer as a landmark event. DRDO Chairman Dr Samir V Kamat congratulated the Project Akash team for first AHSP transfer from the missile cluster to MSQAA for such a complex system involving missile and multiple ground systems. He said the transfer process will enable the roadmap for future missile systems, which are under production, the MoD release stated.

Akash is the first state-of-the-art indigenous surface-to-air missile system which has been with the armed forces for nearly a decade. It has been inducted by the Indian Army and Indian Air Force with an order value worth Rs 30,000 crore, which is one of the largest single system orders for indigenous missile systems, according to the MoD. Apart from DRDL, a number of other DRDO labs are involved in the development of the system. These include Research Centre Imarat based in Hyderabad, Electronics and Radar Development Establishment based in Bangalore, Three Pune based facilities Research and Development Establishment (Engineers), Armament Research and Development Establishment; High Energy Materials Research Laboratory, Balasore based Integrated Test Range and Ahmednagar based Vehicles Research Development Establishment.

<https://indianexpress.com/article/india/drdo-hands-over-authority-holding-sealed-particulars-akash-missile-8305558/>

DRDO On Twitter



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@DRDO_India

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[#DRDOUpdates](#) | DRDO hands over Authority Holding Sealed Particulars of Akash Weapon System (Indian Army Version) to Missile Systems Quality Assurance Agency

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11:56 AM · Dec 4, 2022



पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

शुक्रवार, 02 दिसंबर 2022

भारतीय नौसेना के युद्धपोत शिवालिक और कमोर्टा का वियतनाम में हो ची मिन्ह सिटी का दौरा

भारतीय नौसेना के युद्धपोत शिवालिक और कमोर्टा जो दक्षिण चीन सागर में आगे तैनात हैं, वे फिलहाल द्विपक्षीय रक्षा सहयोग आयोजनों के लिए वियतनाम के हो ची मिन्ह सिटी पहुंच चुके हैं। अपनी यात्रा के दौरान ये दोनों नौसैन्य पोत वियतनाम पीपुल्स नेवी के साथ कई पेशेवर गतिविधियां एवं बातचीत करेंगे। यह दौरा दोनों नौसेनाओं के बीच मजबूत संबंधों को और आगे बढ़ाने के साथ-साथ भारत तथा वियतनाम के बीच राजनयिक संबंधों की 50वीं वर्षगांठ के अवसर को मनाने के लिए द्विपक्षीय रक्षा सहयोग गतिविधियों का हिस्सा है। इस वर्ष की शुरुआत में भी भारतीय नौसेना के दो युद्धपोत सहयाद्री और कदमत्त ने हो ची मिन्ह सिटी का दौरा किया था।

वियतनाम की यात्रा करने वाले भारतीय नौसेना के दोनों जलपोत शिवालिक और कमोर्टा विशाखापत्तनम स्थित भारतीय नौसेना के पूर्वी बेड़े का हिस्सा हैं। ये दोनों युद्धपोत भारत में डिज़ाइन तथा निर्मित हैं। ये जहाज हथियारों एवं सेंसर की एक बहुमुखी प्रणाली से लैस हैं, ये बहु-उद्देशीय हेलीकाप्टर ले जाने में सक्षम हैं और भारत की उन्नत युद्धपोत निर्माण क्षमताओं का प्रतीक हैं।

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=1880558>



**Press Information Bureau
Government of India**

Ministry of Defence

Fri, 02 Dec 2022

Indian Navy Ships Shivalik and Kamorta Visit Ho Chi Minh City, Vietnam

Indian Naval Ships, Shivalik and Kamorta which are forward deployed in the South China Sea are in Ho Chi Minh City, Vietnam. The ships would be undertaking numerous professional interactions with the Vietnam People's Navy during the visit. The visit is part of the bilateral defence cooperation activities to further enhance the robust ties between the two navies as also to mark the 50th anniversary of diplomatic relations between India and Vietnam. Earlier this year, two Indian Naval Ships, Sahyadri and Kadmatt had also visited Ho Chi Minh City.

The visiting Indian Naval ships Shivalik and Kamorta form part of the Indian Navy's Eastern Fleet based at Visakhapatnam. The two ships, designed and constructed in India, are equipped with a versatile array of weapons and sensors, carry multi-role helicopters and symbolise India's advanced warship building capabilities.

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=1880480>

THE TIMES OF INDIA

Sat, 03 Dec 2022

Navy Ready to Showcase Combat Power on Sunday

The Navy is gearing up for an operational demonstration of its combat prowess at Visakhapatnam to celebrate its annual day on December 4, even as two of its frontline warships on forward deployment to South China Sea are now at Ho Chi Minh City in Vietnam. The Navy Day celebrations, like the Army and IAF Days, have been shifted out of the NCR for the first time in line with the government's directive to take major events to different parts of the country. The IAF Day parade and flypast on October 8 was conducted in Chandigarh this year, while the Army Day parade on January 15 next year will be held in Bengaluru. India celebrates December 4 as Navy Day every year to acknowledge the force's audacious attack on the Karachi port under Operation Trident during the Indo-Pak war in 1971. President Droupadi Murmu will be the guest of honour at the operational demonstration at Vizag on Sunday, which will include warships, submarines, aircraft and marine commandos. The Navy said the deployment of stealth frigate INS Shivalik and anti-submarine warfare corvette INS Kamorta to Vietnam will further enhance the robust ties between the two navies as well as mark the 50th anniversary of bilateral diplomatic relations. With an eye on China, India has upgraded defence ties with Asean countries through regular joint exercises, military exchanges and training programmes over the last several years.

<https://timesofindia.indiatimes.com/india/navy-ready-to-showcase-combat-power-on-sunday/articleshow/95947880.cms>



पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

शुक्रवार, 02 दिसंबर 2022

मुंबई में रक्षा सलाहकार समिति की बैठक के दौरान रक्षा मंत्री ने कहा कि भारतीय नौसेना एवं भारतीय तटरक्षक को देश की समुद्री सीमाओं की रक्षा के लिए नवीनतम जहाजों और हथियारों से लैस किया जा रहा है

राष्ट्रीय सुरक्षा सुनिश्चित करना सरकार की सर्वोच्च प्राथमिकता : श्री राजनाथ सिंह

देश की समुद्री सीमाओं की रक्षा के लिए भारतीय नौसेना (आईएन) और भारतीय तटरक्षक (आईसीजी) को स्वदेशी अत्याधुनिक जहाजों और हथियारों से लैस किया जा रहा है। यह बात रक्षा मंत्री श्री राजनाथ सिंह ने दिनांक 02 दिसंबर, 2022 को मुंबई में 'रक्षा शिपयार्ड' पर रक्षा मंत्रालय की सलाहकार समिति की बैठक के दौरान कही, जिसमें अनेक संसद सदस्यों ने भाग लिया। श्री राजनाथ सिंह ने कहा कि भारतीय नौसेना और भारतीय कोस्टगार्ड को मजबूत करने के सभी प्रयास किए जा रहे हैं क्योंकि राष्ट्रीय सुरक्षा सुनिश्चित करना सरकार की सर्वोच्च प्राथमिकता है। इस दिशा में महत्वपूर्ण भूमिका निभाने के लिए रक्षा शिपयार्डों की सराहना करते हुए, रक्षा मंत्री ने कहा कि उन्होंने उत्पादों की समय पर डिलीवरी और गुणवत्ता सुनिश्चित की है, जो एक मजबूत सेना के निर्माण के लिए महत्वपूर्ण है, और प्रधानमंत्री श्री नरेन्द्र मोदी के आत्मनिर्भर भारत 'विजन' को साकार करने का प्रयास कर रहे हैं। उन्होंने हथियारों/उत्पादों के स्वदेशी निर्माण को प्रोत्साहित करने और डीपीएसयू द्वारा आयात को कम करने के लिए सरकार द्वारा की गई अनेक पहलों को सूचीबद्ध किया। इन पहलों में प्रमुख लाइन रिप्लेसमेंट युनिट्स/ सब-सिस्टम्स और सृजन पोर्टल सहित सकारात्मक स्वदेशीकरण सूचियों की अधिसूचना शामिल है।

श्री राजनाथ सिंह ने कहा, "स्वदेशीकरण को बढ़ावा देने के लिए दिनांक 14 अगस्त, 2020 को सृजन पोर्टल लॉन्च किया गया था। दिनांक 30 सितंबर, 2022 तक पोर्टल पर शिपयार्ड के 783 आइटम हैं। ये वस्तुएं पहले आयात की जाती थीं और उनके स्वदेशी विक्रेता उपलब्ध नहीं थे। शिपयार्ड अब तक सूची से 73 वस्तुओं को सफलतापूर्वक स्वदेशी बनाने में सक्षम रहे हैं। शेष मदों के स्वदेशीकरण के प्रयास उद्योग भागीदारों के सहयोग से प्रगति पर हैं।" रक्षा मंत्री ने देश की अर्थव्यवस्था को मजबूत करने के लिए रक्षा शिपयार्डों की भी सराहना की। उन्होंने कहा, "वर्ष 2021-22 के दौरान, इन शिपयार्डों के उत्पादन का मूल्य 8,925 करोड़ रुपये था और टैक्स के बाद प्रॉफिट 928 करोड़ रुपये था। वर्तमान में इन शिपयार्डों की ऑर्डर बुक की स्थिति 81,777 करोड़ रुपये है।" श्री राजनाथ सिंह ने इस तथ्य की भी सराहना की कि शिपयार्डों में

गवर्नमेंट ई मार्केटप्लेस (जीईएम) के माध्यम से खरीद बढ़ रही है, जिससे न केवल घरेलू उत्पादों को बढ़ावा मिला है, बल्कि खरीद में पारदर्शिता भी सुनिश्चित हुई है। उन्होंने कहा कि शिपयार्डों को जीईएम के माध्यम से खरीद बढ़ाने के लिए कहा गया है और एमएसएमई से कुल खरीद का 25 प्रतिशत करने का लक्ष्य रखा गया है।

रक्षा मंत्री ने भरोसा जताया कि जल्द ही शिपयार्ड न केवल घरेलू जरूरतों को पूरा करेंगे, बल्कि प्रतिस्पर्धी आधार पर निर्यात ऑर्डर भी हासिल करेंगे। उन्होंने उम्मीद जताई कि ये शिपयार्ड बदलते परिवेश में खुद को ढालना जारी रखेंगे और वांछित परिणाम प्राप्त करेंगे। उन्होंने कहा कि मित्र देशों ने इन शिपयार्डों द्वारा निर्मित प्लेटफार्मों की गुणवत्ता की सराहना की है।

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=1880558>



Press Information Bureau
Government of India

Ministry of Defence

Fri, 02 Dec 2022

Indian Navy & Indian Coast Guard being Equipped with Latest Ships & Weapons to Protect Country's Maritime Borders, Says Raksha Mantri During Consultative Committee for Defence Meeting In Mumbai

Ensuring national security is Government's top priority: Shri Rajnath Singh

Indian Navy (IN) and Indian Coast Guard (ICG) are being equipped with indigenous state-of-the-art ships and weapons to protect the maritime borders of the country. This was stated by Raksha Mantri Shri Rajnath Singh during the meeting of Consultative Committee for Ministry of Defence on 'Defence Shipyards' attended by a number of Members of Parliament in Mumbai on December 02, 2022. Shri Rajnath Singh asserted that all efforts are being to strengthen IN and ICG as ensuring national security is the Government's top priority. Commending the defence shipyards for playing a crucial role in this direction, the Raksha Mantri stated that they have ensured timely delivery and quality of products, which is pivotal for building a strong military, and are striving to realise Prime Minister Shri Narendra Modi's vision of 'Aatmanirbhar Bharat'. He listed out a number of initiatives taken by the Government to encourage indigenous manufacturing of weapons/ products and minimise imports by DPSUs. The initiatives include notification of Positive Indigenisation Lists comprising Major Line Replacement Units/Sub-systems and SRIJAN portal.

“The SRIJAN portal was launched on August 14, 2020 to promote indigenisation. As on September 30, 2022, there are 783 items of shipyards on the portal. These items were earlier imported and their indigenous vendors were not available. The shipyards have, so far, been able

to successfully indigenise 73 items from the list. Indigenisation efforts for the remaining items are in progress in collaboration with industry partners,” Shri Rajnath Singh said. The Raksha Mantri also lauded the defence shipyards for strengthening the country’s economy. “During 2021-22, the Value of Production of these shipyards was Rs 8,925 crore and Profit After Tax was Rs 928 crore. Presently, the order book position of these shipyards is Rs 81,777 crore,” he said.

Shri Rajnath Singh also appreciated the fact that procurement through Government e Marketplace (GeM) is increasing in the shipyards, which has not only provided a boost to domestic products, but has ensured transparency in procurement. The shipyards have been asked to increase procurement through GeM and a target has been to make 25 percent of the total procurement from MSMEs, he added. The Raksha Mantri exuded confidence that soon the shipyards will not only meet the domestic requirements, but also earn export orders on a competitive basis. He hoped that these shipyards will continue to adapt themselves to the changing environment and achieve the desired results. Friendly countries have appreciated the quality of the platforms manufactured by these shipyards, he added.

<https://www.pib.gov.in/PressReleasePage.aspx?PRID=1880475>

THE ECONOMIC TIMES

Sun, 04 Dec 2022

PM Modi lauds Indian Navy on Navy Day

Prime Minister Narendra Modi on Sunday lauded the Indian Navy on Navy Day, saying it has steadfastly protected our nation and distinguished itself with its humanitarian spirit during challenging times. India celebrates December 4 as Navy Day to acknowledge the role of the Indian Navy and commemorate its achievements in 'Operation Trident' during the 1971 Indo-Pak War. "Best wishes on Navy Day to all navy personnel and their families. We in India are proud of our rich maritime history," Modi said in a tweet. "The Indian Navy has steadfastly protected our nation and has distinguished itself with its humanitarian spirit during challenging times," the prime minister said.

<https://economictimes.indiatimes.com/news/defence/pm-modi-lauds-indian-navy-on-navy-day/articleshow/95974004.cms?from=mdr>

Business Standard

Sun, 04 Dec 2022

Top Brass of Defence Forces Pay Homage at National War Memorial on Navy Day

Top brass of the Indian Armed Forces on Sunday paid homage at the National War Memorial and commemorated the achievement of bombing and destroying Karachi harbour in Operation Trident during the 1971 War against Pakistan, according to the Defence officials. Chief of Defence Staff General Anil Chauhan, Indian Air Force chief Air Chief Marshal VR Chaudhari, and Navy chief Admiral R Hari Kumar were among the officials who paid their homage on the occasion of Navy Day. "Commemorating the glorious achievement of bombing & destroying

Karachi harbour in Operation TRIDENT during 1971 War, homage was paid by CDS Gen Anil Chauhan, IAF chief Air Chief Marshal VR Chaudhari and Navy chief Admiral R Hari Kumar at the National War Memorial," the Defence officials said.

New Delhi [India], December 4 (ANI): Top brass of the Indian Armed Forces on Sunday paid homage at the National War Memorial and commemorated the achievement of bombing and destroying Karachi harbour in Operation Trident during the 1971 War against Pakistan, according to the Defence officials. Chief of Defence Staff General Anil Chauhan, Indian Air Force chief Air Chief Marshal VR Chaudhari, and Navy chief Admiral R Hari Kumar were among the officials who paid their homage on the occasion. "Commemorating the glorious achievement of bombing & destroying Karachi harbour in Operation TRIDENT during 1971 War, homage was paid by CDS Gen Anil Chauhan, IAF chief Air Chief Marshal VR Chaudhari & Navy chief Admiral R Hari Kumar at the National War Memorial," the Defence officials said.

India celebrates December 4 as Navy Day, every year, to acknowledge the role of the Indian Navy and commemorate its achievements in 'Operation Trident' during the 1971 Indo-Pak War. Earlier today, Prime Minister Narendra Modi extended greetings on the occasion of Navy Day and said that the force while "steadfastly" protecting the nation has distinguished itself with its humanitarian spirit. "Best wishes on Navy Day to all navy personnel and their families. We in India are proud of our rich maritime history. The Indian Navy has steadfastly protected our nation and has distinguished itself with its humanitarian spirit during challenging times," PM Modi tweeted. Defence Minister Rajnath Singh also extended greetings on Navy Day, saying the nation is proud of the Indian Navy's valour, courage, commitment and professionalism.

"Greetings to all @IndianNavy personnel on #NavyDay. The Indian Navy is at the forefront of keeping our country safe by ensuring impeccable maritime security. The nation is proud of Indian Navy's valour, courage, commitment and professionalism," Rajnath Singh tweeted. He also shared a video from the Indian Navy with the tweet showcasing the combat-ready capability of the Navy. Chief of Naval Staff (CNS) Admiral R Hari Kumar recalled and paid tributes to the bravehearts of India for the supreme sacrifice they made in protecting the nation. "We reaffirm our unwavering commitment to preserve protect and promote our National Interests and to remain a #CombatReady #Credible #Cohesive & #FutureProof Force. We pay homage to supreme sacrifices of our Bravehearts & gratitude to our veterans," Spokesperson Indian Navy tweeted quoting Navy chief Admiral R Hari Kumar as saying.

This year, as India ushers in the 'Amrit Kaal' with the commencement of the celebrations of 75 years of her independence, the Indian Navy is all set to demonstrate India's combat prowess and capability through an 'Operational Demonstration' at Visakhapatnam on Sunday, December 04, 2022. This year, for the first time, Navy Day Celebrations are being conducted outside the National Capital. Indian Naval ships, submarines, aircraft and Special Forces from Eastern, Western and Southern Naval Command would showcase the capability and versatility of Indian Navy. The event will culminate with a sunset ceremony and illumination by ships at anchorage.

As part of Navy day, ENC started a full dress final rehearsal on Friday evening at Rama Krishna Beach for December 4 Navy day program. INS Tarangini, INS Jalashwa, the biggest amphibious transport dock and Fifteen warships including submarines and Aircrafts participated near Rama Krishna Beach sea shore in Visakhapatnam. The iconic fighter aircraft MIG-29K, which comprises part of the air assets onboard the INS Vikramaditya and INS Vikrant aircraft carriers,

are also scheduled to be part of the air show on December 4. The P-8I Poseidon also made a low flypast, captivating the audience with its mammoth size.

Various helicopters such as the reliable Chetaks, the indigenously-built ALH (Advanced Light Helicopter) and the big UH 3H. The naval personnel also rehearsed a search and rescue operation at sea with a UH 3H off the coast. The silhouetted image of the warships, decorated with electric lights and shooting off flares, simulating a war-like scenario, made for a striking sight in the backdrop of the evening sky. The Navy Day celebrations are aimed at fostering greater outreach, renewing maritime consciousness amongst our citizens and highlighting the Navy's contributions towards national security.

https://www.business-standard.com/article/current-affairs/top-brass-of-defence-forces-pay-homage-at-national-war-memorial-on-navy-day-122120400416_1.html

DECCAN Chronicle

Sat, 03 Dec 2022

Navy Focusing on Underwater Capabilities: ENC Chief

Indian Navy is enhancing its underwater surveillance capabilities, apart from adding more submarines and anti-submarine warfare vessels, disclosed flag officer commanding-in-chief Vice Admiral Biswajit Dasgupta of the Eastern Naval Command (ENC). Addressing media aboard INS Jalashwa in Visakhapatnam on Saturday on the eve of Navy Day, the vice admiral underlined that underwater is a challenging domain as only sound and a kind of laser travel in the water. “We have aircraft and ships fitted with sonars that provide much of the underwater information. Very soon, we will be launching unmanned aircraft fitted with sonar,” he stated. The ENC chief said Navy is planning to acquire more submarines. Apart from conventional class submarines, it is following up on its only nuclear powered submarine INS Arihant. Regarding Agnipath, the vice admiral said for the first time in history of Navy, non-commissioned women officers are being inducted. The first batch has begun training at INS Chilka from December 1 and would be completing it in March next year. At present, six women commissioned officers are with the Eastern Naval Command. “The idea is to have 20 percent women in the Agniveer force,” he maintained.

Speaking on new changes in the offing, the vice admiral said a MIG squadron is being based at INS Dega in Visakhapatnam, as aircraft carrier INS Vikrant will be based in Visakhapatnam from 2024 onwards. Around that time, the Navy Alternative Operational Base at Rambilli will also be commissioned. He described the year as eventful, saying the 12th edition of Presidential Review had been conducted on February 21 in which 120 ships, submarines and aircraft from Indian Navy, in addition to ships from Coast Guard, Shipping Corporation of India and Ministry of Earth Sciences participated. Soon thereafter, a multinational naval exercise – MILAN- 22 – had been carried out with participation from 39 friendly foreign countries, 13 of them warships and one maritime patrol aircraft. “These two landmark events have showcased our 'city of destiny' to the entire country as well as to an international audience,” the ENC chief declared. He spoke about how the Indian Navy is moving ahead with indigenisation towards building up its might. Governor Biswabhusan Harichandan and minister in waiting designated Gudivada Amarnath will receive President Droupadi Murmu at Visakhapatnam on Sunday afternoon. Also present will be AP Assembly Speaker Tammineni Sitaram, Union minister for tourism G.

Krishan Reddy, Minister for ports and shipping Sarbananda Sonowal, minister of state for defence Ajay Bhatt and AP health minister Vidadala Rajani.

<https://www.deccanchronicle.com/nation/current-affairs/031222/navy-focusing-on-underwater-capabilities-enc-chief.html>

THE ECONOMIC TIMES

Sun, 04 Dec 2022

Spectacular Show of Prowess Marks Navy Day Celebration in Vizag

The Indian Navy showcased its mighty combat prowess in a spectacular fashion through an Operational Demonstration on the occasion of Navy Day here on Sunday. President of India and the Supreme Commander of Armed Forces Droupadi Murmu was the chief guest at the event organised at Ramakrishna Beach in Visakhapatnam. This was the first time the Navy Day was celebrated outside New Delhi. Sailors aboard the submarine INS Sindhukeerthi and INS Tarangini, the sail ship that circumvented the world, welcomed the President as they sailed past the venue. The Navy commandos carried out a slithering operation from the Sea King helicopter, followed by a demonstration of the combat skills of the Marcos (Marine Commandos) who, after a rescue operation, demolished an oil rig. The Hawk aircraft were also on show, as also the MiG 29 K aircraft. The Navy's warships Missile Corvette INS Khanjar, INS Kadmat and INS Kirch, Destroyer INS Delhi, Frigate INS Sahyadri and Destroyer INS Kochi were on display. A search and rescue operation was demonstrated with the commandos lowering themselves from Naval helicopter Chetak and the Advanced Light Helicopter ALH Mach-3 and carrying out the mission. Four helicopters then demonstrated a precision landing onboard the warships lined offshore.

Firing of rockets from the warships was another attraction at the event, along with a fly-past by the Naval aircraft. Skydiver Anup Singh presented a book the 'History of Indian Navy' to the President, after he performed a free fall from an aircraft. A special song on the Indian Navy composed by the famous musical trio Shankar-Ehsaan-Loy and penned by noted lyricist Prasoon Joshi was released on the occasion. Shankar (Mahadevan) enthralled the audience by a live performance as his partners Ehsaan, Loy and Joshi accompanied him on the stage. The President, Chief of Naval Staff, Union Minister of State for Defence joined the Navy officers, men and their family members in cheering Shankar as he rendered the song with full fervor. The Indian Navy Band rendered instrumental support to the song.

Illumination of the ships lined up in a formation provided a visual treat to the thousands of people gathered along the Vizag beach to witness the Navy Day celebrations. Navy Chief Admiral R Hari Kumar, Union Minister for Tourism G Kishan Reddy, Minister of State for Defence Ajay Bhatt and others attended the event. The President inaugurated, in virtual mode, the National Open Air Range in Kurnool district and the Advanced Night Vision Products Factory of the Bharat Electronics Limited at Nimmakuru in Krishna district. She also inaugurated National Highway projects worth over Rs 925 crore, including the Rayachoti-Angallu section of the NH-340, a four-lane Road-over-Bridge on NH-205 and six-lane grade-separated structures on roads in Kurnool city, Dhona and service roads on NH-44. She also laid the foundation stone for widening of Mudigubba-Puttaparthi stretch of NH-342 in Sri Satya Sai

district. Murmu also inaugurated four Ekalavya Model Residential Schools in the Agency (tribal) areas of the state.

<https://economictimes.indiatimes.com/news/defence/spectacular-show-of-prowess-marks-navy-day-celebration-in-vizag/articleshow/95983909.cms?from=mdr>

नवभारत टाइम्स

रविवार, 04 दिसंबर 2022

भारतीय नौसेना के लिए 2022 यू बना मील का पत्थर

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एक बहु-आयामी प्राधिकरण के रूप में भारत के समुद्री हितों की रक्षा करते हुए भारतीय नौसेना कई महत्वपूर्ण भूमिकाएं निभाती है। इनमें देश की क्षेत्रीय अखंडता को बनाए रखना, अंतरराष्ट्रीय सहयोग को मजबूत करना, आपदाओं के दौरान राहत पहुंचाने के साथ कई अन्य जिम्मेदारियां शामिल हैं। खुद को लगातार मजबूत करने के प्रयास में भारतीय नौसेना ने इस साल कई शानदार उपलब्धियां हासिल की हैं। साथ ही उसकी नजरें कई अन्य लक्ष्यों और उपलब्धियों को हासिल करने पर भी टिकी हैं।

आत्मनिर्भरता से दूरदर्शिता की नई कहानी कहती नौसेना

1971 के युद्ध के दौरान समुद्र में भारत की जीत का जश्न मनाने के अलावा, भारतीय नौसेना की ओर से मनाए जाने वाले नौसना दिवस पर असंख्य उपलब्धियों को सामने लाया जाता है। भारतीय उपमहाद्वीप में एक प्रमुख नौसैनिक शक्ति होने के नाते, भारतीय नौसेना ने स्वदेशी रूप से सर्वश्रेष्ठ युद्धपोतों का निर्माण करने

और तकनीकी प्रगति को अपनाने पर ध्यान केंद्रित किया है। नतीजतन, यह वर्ष भारत की नौसैनिक ताकत के लिए मील का पत्थर साबित हुआ है।

2 सितंबर, 2022 को कोचीन शिपयार्ड लिमिटेड (सीएसएल) में देश के पहला स्वदेशी वारशिप, इंडियन नेवी शिप (आईएनएस) विक्रांत को प्रधानमंत्री नरेन्द्र मोदी द्वारा कमीशन किया गया था। भारत के समुद्री इतिहास में बने अब तक के सबसे बड़ा शिप होने के नाते, आईएनएस विक्रांत देश की आत्मनिर्भरता की दृष्टि का एक अनूठी विरासत है और भारत की सुरक्षा व आर्थिक हितों की रक्षा में यह महत्वपूर्ण साबित होगा। इस प्रतिष्ठित वारशिप को भारतीय नौसेना के इन-हाउस वॉरशिप डिजाइन ब्यूरो (डब्ल्यूडीबी) द्वारा डिजाइन किया गया है और इसे कोचीन शिपयार्ड लिमिटेड ने बनाया है। यह बंदरगाहों, नौवहन और जलमार्ग मंत्रालय के तहत एक सार्वजनिक क्षेत्र का शिपयार्ड है और अत्याधुनिक ऑटोमेशन फीचर्स से लैस है। आईएनएस विक्रांत 'मेक इन इंडिया' पहल का एक आदर्श है और हिंद महासागर में समुद्री सुरक्षा को बढ़ाने के लिए भारतीय नौसेना की प्रतिबद्धता का उदाहरण है। इसके अलावा,

नौसेना ने नए नेवल इनसाइन (निशान) का उद्घाटन किया, जो अतीत के साथ देश की समुद्री विरासत को और अहमियत देता है। इस तरह से समय के साथ-साथ भारतीय नौसेना ने कामकाज में एक नए युग की शुरुआत की है और प्रगति का नया रास्ता भी तैयार किया है।

ताकतवर नौसैनिक नेतृत्व क्षमता

इनोवेशन को अपनाने और बेहतरीन ट्रेनिंग वाले स्किलड प्रफेशनल तैयार करने के निरंतर प्रयासों में इंडियन नेवी ने कई प्रतिष्ठित एजुकेशनल इंस्टिट्यूशंस के साथ एमओयू साइन किया है। इससे इंडियन नेवी का अकेडमिक और ट्रेनिंग इंस्टिट्यूट्स के साथ नए संबंध स्थापित हुए हैं। इस तरह के पहल से इन सहयोग के तहत, इंस्टिट्यूट्स से उम्मीद की जाती है कि वे उभरते हुए क्षेत्र में इंडियन नेवी के लिए कस्टमाइज कोर्सेज, कार्यक्रम और कार्यशालाएं आयोजित करें। इनमें 5G, इंटरनेट ऑफ थिंग्स (आईओटी), डेटा साइंस, मशीन लर्निंग, साइबर वारफेयर सिक्योरिटी, लॉजिस्टिक्स मैनेजमेंट, ब्लॉकचेन, डिजिटल मार्केटिंग समेत दूसरी चीजें शामिल हैं।

इसके अलावा, युवाओं के लिए भारतीय नौसेना में अवसरों और राष्ट्र की समुद्री सुरक्षा के प्रति इसकी भूमिका के बारे में जानकारी देने का प्रयास किया है। उदाहरण के लिए इस वर्ष की शुरुआत में नौसेना ने भारत की स्वतंत्रता के 75 वर्षों का जश्न मनाने के लिए अपना प्रमुख कार्यक्रम, द इंडियन नेवी क्विज या THINQ की शुरुआत की है – जो कि एक अद्वितीय राष्ट्रीय-स्तरीय क्विज प्रतियोगिता है। इसमें 7,500 भारतीय स्कूलों की भागीदारी के साथ आयोजन ने फाइनलिस्ट को इंडियन नेवी के जीवन के तौर तरीको का अनुभव करने और अपनी जानकारी को परखने के लिए एयरक्राफ्ट करियर आईएनएस विक्रमादित्य पर जाने का मौका दिया है।

इसी तरह से यह साल के नेवी डे समारोह में इंडियन नेवी ने पुणे, नांदेड़

और सतारा के 140 से अधिक स्कूल और कॉलेज के स्टूडेंट्स को नवंबर में आईएनएस शिवाजी का दौरा करने के लिए आमंत्रित किया। दक्षिणी नौसेना कमान ने शिक्षकों के साथ लगभग 2,000 स्कूली बच्चों के लिए नौसेना के जहाजों और ट्रेनिंग यूनिट्स का एजुकेशनल टूर भी आयोजित किया। बच्चों को आईएनएस मगर, आईएनएस निरीक्षक, आईएनएस सुदर्शिनी, आईएनएस तरंगिनी और नेवल एयर स्टेशन आईएनएस गरुड़ का गाइडेड टूर कराया गया। ये सभी उपाय नौसेना के नेतृत्व में मजबूत भविष्य का आधार

तैयार और स्टूडेंट्स में राष्ट्रीय गौरव की भावना पैदा करते हैं।

प्रतिभा का प्रदर्शन

इस वर्ष का नौसेना दिवस समारोह विशाखापत्तनम में पूरे जोश के साथ मनाया जा रहा है। भारतीय नौसेना ने एक ऑपरेशंस डेमो के लिए तैयार है, जिसमें नेवी के जहाजों, पनडुब्बियों, विमानों और विशेष बलों की क्षमता व बहुमुखी प्रतिभा का प्रदर्शन किया गया है। यह समारोह राष्ट्रपति और सशस्त्र बलों की सर्वोच्च कमांडर द्रौपदी मुर्मू मुख्य अतिथि के रूप में उपस्थिति रही। इसमें लोगों ने जहाजों और पनडुब्बियों के युद्धाभ्यास के साथ समुद्री कमांडो द्वारा अभ्यासी समुद्र तट हमले और एक विशेष संगीत प्रदर्शन का आनंद लिया।

इसके अलावा, भारतीय नौसेना ने अपने प्रयासों में सामाजिक जिम्मेदारियों का निर्वहन बखूबी कर दिखाया है और नौसेना सप्ताह से पहले, दक्षिणी नौसेना कमान ने एक अनाथालय और एक निराश्रित घर में सामाजिक सेवाएं दीं।

हिंद महासागर में एक क्षेत्रीय समुद्री बल के रूप में अपनी क्षमता को मजबूत करने के लिए, भारतीय नौसेना इनोवेटिव फ्यूचर प्रॉजेक्ट्स को पूरा करने के लिए प्रतिबद्ध है, जो नेवल ऑपरेशंस के पूरे स्पेक्ट्रम में मिशन को पूरा करने के लिए तैयार है।

2047 तक आत्मनिर्भर बनेगी नेवी, सरकार को दिया भरोसा

नौसेना प्रमुख ने कहा, तब सभी जहाज और एयरक्राफ्ट स्वदेशी होंगे

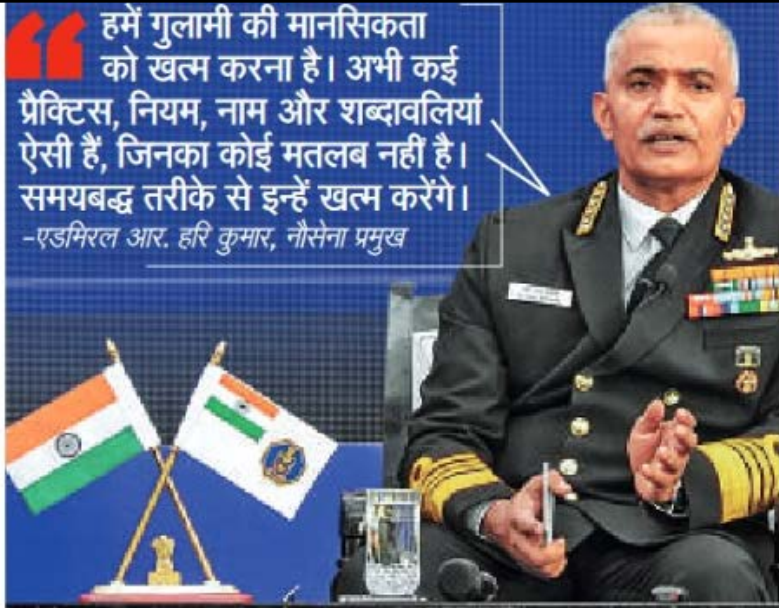
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■ नई दिल्ली: भारतीय नौसेना का इरादा साल 2047 तक आत्मनिर्भर बन जाने का है। नौसेना प्रमुख एडमिरल आर. हरि कुमार ने शनिवार को कहा कि सरकार ने आत्मनिर्भर भारत के लिए साफ गाइडलाइंस दी हैं। हमने सरकार को भरोसा दिया है कि 2047 तक नौसेना आत्मनिर्भर बन जाएगी। तब हमारे सभी जहाज और उनके एयरक्राफ्ट स्वदेशी होंगे।

4 दिसंबर को नौसेना दिवस से एक दिन पहले नौसेना प्रमुख अपनी बात रख रहे थे। उन्होंने कहा कि प्रधानमंत्री ने पंच प्रण की बात कही है, हम उसका पूरी तरह समर्थन करते हैं। हमें गुलामी की मानसिकता को खत्म करना है। हमने देखा है कि कई प्रैक्टिस, कई नियम, कई नाम, कई शब्दावल्यां ऐसी हैं, जिनका कोई मतलब नहीं है। समयबद्ध तरीके से ऐसी प्रैक्टिस, टर्म और नियमों को खत्म किया जाएगा।

हिंद महासागर क्षेत्र में चीन पर नजर: नेवी चीफ ने कहा कि हिंद महासागर क्षेत्र में चीन की गतिविधियों पर नजर बनाए हुए हैं। इस इलाके में चीन के बहुत से जहाज चलते हैं। हम हर गतिविधि पर बारीक नजर रखते हैं। हमारा काम है भारत के हितों को सुरक्षित रखना। हम ध्यान रखते हैं कि ऐसी कोई गतिविधि न हो, जिससे हमारे हितों

हमें गुलामी की मानसिकता को खत्म करना है। अभी कई प्रैक्टिस, नियम, नाम और शब्दावल्यां ऐसी हैं, जिनका कोई मतलब नहीं है। समयबद्ध तरीके से इन्हें खत्म करेंगे।
-एडमिरल आर. हरि कुमार, नौसेना प्रमुख



नौसेना प्रमुख एडमिरल आर. हरि कुमार ने शनिवार को मीडिया से बातचीत की।

को नुकसान हो। हमारा निगरानी तंत्र अच्छा है। हम देखते हैं कि वह हमारे आर्थिक क्षेत्र (EEZ) में न आएँ और न ही अवैध गतिविधियों में शामिल हों।

कतर में जल्द समाधान की उम्मीद: कतर में नेवी के आठ पूर्व अफसरों की गिरफ्तारी पर नेवी चीफ ने कहा कि हमें जैसे पता चला, हम कोशिश कर रहे हैं कि मामला सुलझे। इस मुद्दे के हल के लिए हमारे देश की सभी संबंधित एजेंसियां

और सीनियर लीडरशिप काम कर रही है। उम्मीद है जल्द समाधान निकल जाएगा।

प्रिडेटर ड्रोन पर चर्चा जारी: भारत को 30 प्रिडेटर ड्रोन लेने हैं। नेवी, आर्मी और एयरफोर्स - तीनों के लिए 10-10 ड्रोन लेने हैं। नेवी चीफ ने कहा कि चर्चा चल रही है कि यह संख्या कम करनी है या यही रखनी है। अभी नेवी के पास लीज पर लिए हुए दो प्रिडेटर ड्रोन हैं, जिनका अनुभव काफी अच्छा रहा है।

The Project 75 (I) for the Next-Gen Submarine will be Cleared by Next Year; a New Plan for Minesweepers, Says Navy Chief

The Process for the Project 75I for building next generation submarine will be through by the next year, says Navy Chief Admiral R Hari Kumar. He was addressing a press conference ahead of Navy Day. The Navy Chief also said that a timeline of 2047 has been set for making the force 'Atmanirbhar' (self-reliant). Navy Chief responded to the Financial Express when asked about the capability gaps especially on the delays for crucial next generation submarine project—P-75(India). Since the project is yet to take off under the strategic partnership model, where does the P75I stand now? The major concern remains on the fuel cell air-independent propulsion (AIP) system, a stated requirement under the programme.

Navy Chief replied: "It is a complex process. It is under the strategic partnership model. It the new way of doing business where we want to develop capabilities on this with private players. So, there are a lot of challenges. So, there has been a little bit of delays. The Indian applicant companies and the OEMs who are joining with them had apprehensions which we have addressed." Highlighting the concerns over the technical ambiguity over the project, Navy Chief remarked: "It is the new area for the people involved in the procurement and the companies involved along with OEMs which are participating. So, these challenges are getting addressed." Clarified Navy Chief Admiral R Hari. He further added: "They [OEMs] had number of queries and those queries were duly processed. There concerns were addressed. We are hopeful now it will go forward in a few months."

As a major initiative, Ministry of Defence (MoD) issued Request for Proposal (RFP) for the first acquisition programme under the Strategic Partnership Model for construction of six AIP fitted Conventional Submarines named Project 75(India) [P-75(I)] for the Indian Navy, on July 20, 2021. The RFP was issued to shortlisted Strategic Partners (SPs) or Indian Applicant Companies for the project viz, Mazagaon Dock Shipbuilders Limited (MDL) and Larsen & Tubro (L&T). The project cost is over Rs 40,000 crore. The ambitious Project-75(I) puts forth the plan for the indigenous construction of six modern conventional submarines (including associated shore support, Engineering Support Package, training and spares package) with contemporary equipment, weapons & sensors including Fuel-Cell based AIP (Air Independent Propulsion Plant), advanced torpedoes, modern missiles and state of the art countermeasure systems.

As project, P75I would further provide a major boost to the indigenous design and construction capability of submarines in India, in addition to bringing in the latest submarine design and technologies as part of the project.

Minesweepers for IN

Since 2004, we are talking about 24 minesweeping vessels which is so critical for the safety of boats, ports and marine trade. Where do we stand now in terms of those acquisition? Also, the

RFI was issued in this direction way back. Are we going through Atamanirbharta (self-reliant) route on the minesweeping acquisition process? Navy Chief said: “As far as the minesweeping vessels are concerned, we have worked on the QR sometimes back. Now there is a rethink. Instead of going for a pure mine sweeping vessel, we are looking at the new concept of using drones — underwater autonomous systems which is being followed worldwide. So, we are looking at new concept of Motherships with autonomous systems around the ships.”

This clarifies as how IN is proceeding towards the new approach for the Minesweepers. The Indian Navy will be calling out for such Minesweepers with autonomous vehicles very shortly. It is pertinent to note that there will be new RFI based on the new design and tech infusion based on high-capacity sensors and detectors.

Aircraft Carrier (IAC-2)

The Navy Chief Admiral R Hari Kumar said the plan for a bigger Indigenous Aircraft Carrier (IAC-2) is put on hold and IN is examining the possibility of a repeat order for a Vikrant-class carrier. Earlier, Navy has been pushing for the IAC-II having a displacement of 65,000 tonnes with enhanced technological upgradation. Admiral Kumar said: “At the same time, Vikrant’s commissioning, was also marked by another momentous change, as the Navy adopted a new Naval Ensign. This change, reflecting the larger National intent to shed colonial vestiges, was brought about in a swift and decisive manner – reflecting the Navy’s organisational agility and responsiveness. Vikrant, for the foreseeable future, will remain a shining symbol of aspirational India, and will contribute to enhancing India’s global stature, proudly flying our Tiranga across the far reaches of the world’s oceans.”

On the proposed indigenous Twin-Engine Deck-Based Fighter Aircraft (TEDBF), Navy Chief said a ‘draft cabinet note’ is being prepared and the plan is to have a prototype of the jet by 2026 while its production would start by 2032. He added that it is progressing under the Aeronautical Development Agency (ADA) which is the nodal agency for the design and development of the TEDBF. Separately, Admiral Kumar also clarified that the selection process between Boeing’s F/A-18 and Dassault Aviation’s Rafale M have been evaluated by the Navy which is to operate from the carriers in the interim.

AatmaNirbhar by 2047

Admiral Hari said: “The Navy has made a commitment to the top leadership to be fully AatmaNirbhar by 2047.” As recent global events have amply underscored, this vision cannot be met in letter and spirit if we remain dependent on others for our security needs. To that end, the Government has clearly spelt out the need for AtmaNirbharta. The Indian Navy, on our part, has made an unequivocal commitment to be fully AatmaNirbhar by 2047. “Both these aspects – budget and combat readiness – are now increasingly being looked at ‘jointly’ by the three Services. To my mind, jointness is the only way forward, as we prepare to fight and win the wars of tomorrow.

The Late Gen Bipin Rawat had laid the foundations for increased synergy between the Armed Forces, and the present CDS, Gen Anil Chauhan, has provided renewed impetus to this effort. The Indian Navy remains fully committed to greater jointness and cohesion towards collective and effective outcomes,” Navy Chief said. Navy Chief also highlighted the budgetary allocation, said; “In driving self-reliance and technology development, the Indian Navy is well established on a path of budget optimization. The Navy’s share of the Defence Budget this year was 17.8 %,

and in using this judiciously, we have achieved a Revenue to Capital expenditure ratio of 32% – 68% – which accords us flexibility in pursuing our capability developments plan.”

Agniveers for IN

A critical aspect related to capability accretion, is human resource development. Towards this end, implementation of Agnipath has been a much-needed transformational change. the Navy Chief remarked: “We have already inducted our first batch of Agniveers – comprising 3000 recruits who are currently undergoing training at our training base – INS Chilka. Importantly, this batch of Agniveers includes 341 women trainees – once again – a transformational step. While we already have women officers posted on frontline units, they will soon be joined by women in all ranks.”

<https://www.financialexpress.com/defence/the-project-75-i-for-the-next-gen-submarine-will-be-cleared-by-next-year-a-new-plan-for-minesweepers-says-navy-chief/2900116/lite/?>



Sun, 04 Dec 2022

New Aircraft Carrier, Drones, Fighters in Latest Navy Boost

India is working on plans to build a new aircraft carrier, develop an indigenous deck-based fighter jet, and buy hi-tech drones from the US to strengthen itself militarily, even as the navy is keeping tabs on Chinese activity in the Indian Ocean region and is ready to protect the country’s interests in the far seas, Indian Navy chief Admiral R Hari Kumar said on Saturday. “Maintaining credible deterrence while remaining ready to go into harm’s way to protect, preserve and promote national interests will remain our principal priority. Our vision of being a combat ready, credible, cohesive and future-proof force underpins this aspect,” the navy chief said at his annual press briefing on the eve of Navy Day.

The navy is also committed to being fully self-reliant by 2047, when India celebrates 100 years of Independence, getting rid of irrelevant colonial-era practices, processes and symbols, and believes that jointness among the three services is the only way forward, he said. A second indigenous aircraft carrier to project India’s maritime power in the far seas is on the navy’s radar after it commissioned its first locally built carrier, INS Vikrant (earlier called IAC-1), in September. “We are still working on some aspects of IAC-2 like what size it should be and what are the capabilities desired. But right now, we have put a hold on it (IAC-2) because we have just commissioned the Vikrant and are quite happy with the ship. We are examining whether we should look at a repeat order for IAC-1 instead of going for IAC-2 to capitalise on the expertise gained during the former’s construction. We are in the discussion stage right now,” he said.

The 45,000-tonne Vikrant was built at Cochin Shipyard at a cost of Rs. 20,000 crore. Only the US, the UK, Russia, France and China have the capability to build aircraft carriers. IAC-2 is expected to be bigger (65,000 tonne) and costlier than Vikrant. India currently has two aircraft carriers, INS Vikrant, which was commissioned by Prime Minister Narendra Modi in Kochi on September 2, and INS Vikramaditya, bought secondhand from Russia for \$2.33 billion. The navy

has been arguing it needs three such floating airfields to boost its sea control and power projection capabilities, and help it fulfil its growing responsibilities in the Indo-Pacific.

The navy is preparing a draft cabinet note for the design and development of the indigenous twin-engine, deck-based fighter (TEDBF) that India plans to operate from its aircraft carriers, Kumar said. “The first prototype of the TEDBF is likely to be ready around 2026, and its production could begin by 2032,” he said. The navy is working with the working with the Defence Research Development Organisation (DRDO) and Aeronautical Development Agency on the TEDBF project. The Vikramaditya operates Russian-origin MiG-29K fighter jets and some of those are being deployed on INS Vikrant for conducting critical flight trials shortly. Vikrant is expected to be fully operational and integrated with its air wing by the middle of next year. Since TEDBF is still a decade away, the navy is looking at importing deck-based fighters as an interim measure.

India plans to buy 26 new fighters for Vikrant through a government-to-government deal to meet the navy’s requirements, with French aircraft maker Dassault Aviation’s Rafale-M competing with US firm Boeing’s F/A-18 Super Hornet for the order. “Trials have been conducted on both fighters and the evaluation process is underway. We will take a call on what’s in our best interest,” the navy chief said. India is also on course to buy Predator drones from the US for the three services, and discussions are on to finalise the numbers needed, he said. The earlier plan was to buy 30 such drones - 10 each for the navy, air force and army - in a deal estimated to be worth \$3 billion.

In 2020, the navy leased a pair of MQ-9B SeaGuardian drones (an unarmed variant of the Predators manufactured by General Atomics) from the US to boost its intelligence, surveillance and reconnaissance capabilities. The MQ-9Bs have helped the navy keep a close watch on the Indian Ocean at a time when it has stepped up surveillance in the region to check China’s ambitions. Asked to comment on China’s growing footprint in the Indian Ocean region on the back of two Chinese surveillance vessels being recently sighted in the area, Kumar said the Indian Navy was keeping a close watch on the developments, and its job was to see that India’s interests in the maritime domain are protected. “Apart from the Chinese, there are a large number of extra-regional forces in the Indian Ocean region. We keep a close watch, track them, and we see no one undertakes any activity inimical to India’s interests.” Responding to a question on eight former Indian Navy personnel held in Qatar on unspecified charges, Kumar said the highest levels of the government had raised this issue with the Qatari authorities, and he was hopeful that the matter would be resolved soon. “Once you join the navy, you become a part of the naval family. Even after you leave, you are still a part of it,” he said. “Efforts are on to solve this problem.”

India on Thursday said it is still pursuing the case of the navy personnel even as the families of the detained men have been allowed to meet or speak to them more frequently. The men were detained on August 30, but the Qatari authorities are yet to officially state why they were held. All eight men were working for Dahra Global Technologies and Consultancy Services, a private firm owned by a retired Oman air force officer that provides training and other services to Qatar’s armed forces.

<https://www.hindustantimes.com/india-news/new-aircraft-carrier-drones-fighters-in-latest-navy-boost-101670090203798.html>

Superior Aircraft Carrier Put on Hold, Indian Navy Looks at Repeat Order of INS Vikrant

The Indian Navy's plan to have a bigger indigenous aircraft carrier (IAC II) has been put on hold and the option of a repeat order of the recently commissioned IAC I (INS Vikrant) is being contemplated, Indian Navy Chief Admiral R Hari Kumar said. The commissioning of INS Vikrant, India's first Indigenous Aircraft Carrier (IAC), has given a big push to the Indian Navy's capabilities. The IAC II with the proposed name of INS Vishal, which simply means massive, was expected to be a 65,000-tonne warship with a capacity to accommodate more aircraft onboard and has been put on hold due to budget constraints.

Meanwhile, INS Vikrant is a 40,000-tonne carrier that can carry about 35 aircraft, including helicopters. Addressing a press conference a day ahead of Indian Navy Day, Indian Navy Chief Admiral R Hari Kumar said, "We are still working on what size IAC II should be and the capabilities that are desired. But, for now, we have put a hold on it because we have just commissioned INS Vikrant and we are quite happy with the way the ship performed in the trials." "A lot of expertise has been gained in building IAC I. We are seriously looking at a repeat order for IAC I rather than building IAC II. This would capitalize on the expertise available in the country and we could plough back into the economy," he added. The Chief Admiral said that the Indian Navy by 2047 will be a completely indigenous force. "Learning from the Ukraine-Russia war, India cannot rely on anybody else to meet its security requirements and must be self-dependent," he said.

As per the sources, the Navy wanted the IAC II to be a CATOBAR, which could accommodate more aircraft, had nuclear propulsion and was expected to be bigger in size. The Navy estimated Rs 50,000 crore as a life cycle cost for around 30-40 years. Otherwise, the cost would be Rs 35,000 crore, which was also on the higher side. INS Vikrant's life cycle cost is Rs 20,000 crore. "Life cycle cost is the estimated amount spent till the ship is in service, it includes the cost of construction and maintenance for years ahead. This was the Navy's proposal, but due to budget constraints it hasn't gone through. A repeat order of Vikrant is plan B to make sure there are three aircraft carriers. Two always functioning and one in repair," said a Navy official privy to the developments. As a middle path, the Navy is now pushing for a repeat order of IAC I as it would cost less and can be made in 7-8 years from the time of the order being placed.

Difference between IAC I and IAC II

The IAC II would have been equipped with a catapult-assisted take-off but arrested recovery (CATOBAR) aircraft launch system. CATOBAR is a system used for the launch and recovery of aircraft from the deck of an aircraft carrier. It enhances the aircraft's payload capacity. Currently, the Indian Navy has two aircraft carriers – INS Vikramaditya and INS Vikrant in its inventory. Both the carriers are short take-off but arrested recovery (STOBAR) designs, using an angled bow/ski-jump to provide additional lift for embarked aircraft on take-off. While the STOBAR design is cheaper than CATOBAR, it reduces the number of aircraft that can be accommodated

on the carrier. Three aircraft carriers are a must for the requirements of the Navy. Two fully operational and one in repair, keeping in mind two front deployments on the west and east coasts to counter threats from China and Pakistan simultaneously.

Indigenous deck-based fighter aircraft

Speaking on the requirements of fighter aircraft for the current and future aircraft carriers, Admiral Hari Kumar said the first prototype of the indigenous Twin Engine Deck-Based Fighter (TEDBF) would be ready by 2026 and the induction expected by 2032. “We are preparing a draft cabinet note for the TEDBF,” said Hari Kumar, adding that the existing naval fighter MiG 29K was in limited numbers and Russian spare supplies were “also not very forthcoming”. The Navy currently has a fleet of 40 plus MiG 29 K aircraft but is in a critical requirement for more deck-based fighter aircraft to be operated from the two aircraft carriers and as the Navy plans a repeat of IAC I.

To meet the shortfall, the Navy has zeroed in on 2 foreign deck-based aircraft, including the US-based F-18 Super Hornet and RAFALE-M. “There are two fighter aircraft that we feel are suitable. We have done trials of the marine version of the Rafale as well as the Boeing F/A-18 from the shore-based test facility in Goa. The original equipment manufacturers (OEMs) brought the aircraft and did the trials and submitted the trial reports, which are under evaluation. Thereafter, we will take a call on what is in our best interest,” said Admiral R Hari Kumar.

<https://www.indiatoday.in/india/story/superior-aircraft-carrier-on-hold-indian-navy-looks-at-repeat-order-of-ins-vikrant-2305123-2022-12-04>



Sun, 04 Dec 2022

Why Navy has Put 'On Hold' its Plans to Acquire a Third Aircraft Carrier

By Pradip R. Sagar

Notwithstanding with enthusiasm and pride that surrounded the induction of the country’s first indigenous aircraft carrier, INS Vikrant, the Indian Navy has now put its plans to have another aircraft carrier ‘on hold’. In August 2022, the Indian navy commissioned INS Vikrant, the largest warship ever to be built in India, which has a deep displacement of approximately 45,000 tonnes. With INS Vikrant, India entered an elite group of countries with the capability to build aircraft carriers. The US, UK, Russia, China and France are the only other countries with the capacity to design and build carriers weighing 40,000 tonnes and above.

“Right now have put a hold on IAC [Indigenous Aircraft Carrier] II. Contemplating whether we should look at a repeat order for the IAC I, given the expertise we have developed. Haven’t taken it to the government yet,” Navy chief Admiral R. Hari Kumar said. Recently, during the commissioning of INS Vikrant, Cochin Shipyard Limited, which manufactured the warship, was confident of making a third aircraft carrier at a much faster pace. The shipyard claimed it can deliver a sister ship of the same class—with a similar displacement (45,000 tonnes), functional

upgrades and reflecting the latest technological trends--in the next seven to eight years. That too with close to 85 per cent indigenous content.

Besides the newly commissioned INS Vikrant, which is yet to be operationally deployed, the Indian navy operates its sole aircraft carrier, INS Vikramaditya. The recent development means the Navy is not looking to acquire a third aircraft carrier, planned to be a much bigger ship (about 60,000 tonnes displacement), in the near future. Construction costs for the third carrier (expected to be named Vishal) was estimated to be around \$7 billion, with a further \$5-8 billion required for its complement of fighter jets, helicopters and maritime reconnaissance aircraft. To balance the cost of the third carrier, the Navy had even worked out a plan to cut down the number of its carrier based fighter jets to 36 from the 57 originally planned.

Navy planners believe aircraft carriers would provide a mobile air base in geographical areas of India's interest--something shore or island-based facilities cannot match. Moreover, a carrier has a life span of nearly 50 years, which is twice that of other warships. Former Chief of Defence Staff (CDS), General Bipin Rawat, had openly questioned the enormous expense required to build a third carrier. The Indian Air Force (IAF), too, has opposed the idea of a third carrier, arguing that it can provide air support more effectively from IAF bases ashore. Gen Rawat had favoured cruise missile submarines over another carrier, which he believed was "vulnerable" in the event of a war and costly to maintain. He also suggested developing shore-based capabilities as an alternative to a carrier. Gen Rawat's comments had triggered a debate over India's quest for a third aircraft carrier.

There are a total of 41 active aircraft carriers in operation by 13 navies across the world. Supporters of aircraft carriers maintain that major maritime powers, including the US, the UK, Russia, Italy and France, all operate carriers. Some other navies have also shown an interest in acquiring them. India's biggest adversary in the Indian Ocean Region, the PLA Navy of China, has an aim to have a fleet of over 10 aircraft carriers by 2050. Its third carrier, Fujian, launched from the Jiangnan shipyard, is heading for multiple sea voyages and is scheduled to join the PLA Navy in early 2024.

<https://www.indiatoday.in/india-today-insight/story/why-navy-has-put-on-hold-its-plans-to-acquire-a-third-aircraft-carrier-2305013-2022-12-04>

THE ASIAN AGE

Sun, 04 Dec 2022

Keeping Eye on China Spy Ships in Indian Ocean region: Navy

Navy Chief Admiral R. Hari Kumar on Saturday said that India keeps track of the Chinese spy and fishing vessels operating in the Indian Ocean region (IOR) so that they do not indulge in any illegal activities in the Indian maritime zone. Addressing a press conference a day ahead of Navy Day, Adm Kumar said that the proposal for a second indigenous aircraft carrier (IAC-II) has been put on hold. "There are a lot of Chinese ships that operate in the Indian Ocean region. We have the presence of anything between 4 and 6 PLA Navy ships, then some research vessels that

operate. A large number of Chinese fishing vessels also operate in the IOR. We keep a close watch on all developments," Adm Kumar said at the annual press conference. He pointed out that around 60 or so other extra-regional forces are also always present in the IOR. "We are aware it's a vital region through which a large amount of trade and energy flows happen. Our job is to see that India's interests in the maritime domain are protected; towards this, we keep a close watch and track them," he said.

Adm Kumar said that Chinese fishing vessels operate not just in the Indian Ocean but all over the world. "Our job is to keep track of where they are operating and whether they are intruding in our exclusive economic zone (EEZ)," he said. The Navy Chief said that the Indian Navy has robust surveillance mechanisms through ships, aircraft and space-based sensors. "We are aware of where they are operating. We keep track of it and we ensure that they don't intrude into our EEZ and do illegal activities within the maritime zone of India," he said. He said that the first and foremost task of the Navy "is to maintain a credible deterrence while remaining ready to go into harm's way to protect, preserve and promote our national interests." Adm Kumar said that the Navy aims to become self-reliant by 2047.

Talking about the proposed procurement of a fleet of 30-armed Predator drones from the United States, the Navy Chief said, "The case for the procurement is under process. We are discussing whether the numbers have to be rationalised." In 2020, the Indian Navy had taken on lease two MQ-9B Sea Guardian drones from General Atomics for a period of one year for surveillance in the Indian Ocean. The lease period has been extended. "We have gained good experience while operating the leased drones," Adm Kumar said. On the issue of the second indigenous aircraft carrier, Adm Kumar said that the Indian Navy is currently discussing whether to go for the IAC-II or prefer a repeat order for the IAC-I. "We are still working on what size it should be and what its capabilities should be. Right now, we have put a hold on it because we have just commissioned INS Vikrant (IAC-I). We are quite happy with the ship. The way the ship performed in the trial," Adm Kumar. The Navy has been making a strong push for the IAC-II with a 65,000 tonnes displacement that is estimated to cost close to `50,000 crores with the envisaged specifications.

India's first indigenously built aircraft carrier INS Vikrant was commissioned in September. The aircraft carrier, with a displacement of 40,000 tonnes, was built at a cost of around `23,000 crores. According to sources, the cost of building the IAC-II is a major discussion point. Some in the defence establishment argue that the Navy should focus on enhancing its fleet of submarines rather than spending close to `50,000 crores on the aircraft carrier. The Navy Chief said that after the adoption of new naval ensign, an exercise is underway in the force to shed the colonial past. "We strongly support the view that we have to get away from this 'Ghulami ki mansikta' (slave mentality)," he said. On the issue of eight former Indian Navy personnel being held in Qatar on unspecified charges, the Navy Chief said that they have been continuously trying to resolve the issue and have raised it at the highest leadership level. "We are hopeful that it will be resolved," he said. Adm Kumar said that the Navy has inducted its first batch of Agniveers, comprising 3,000 recruits who are currently undergoing training at INS Chilka. "Importantly, this batch of Agniveers includes 341 women trainees, again a transformational step. While we already have women officers posted on frontline units, they will soon be joined by women in all ranks," he added.

<https://www.asianage.com/india/all-india/031222/indian-navy-aims-to-become-atmanirbhar-by-2047-admiral-hari-kumar.html>

The Tribune

Sat, 03 Dec 2022

MoD Shipyards have Rs 81K crore Orders: Govt

Shipyards owned by the Ministry of Defence (MoD) currently had an 'order book' of Rs 81,777 crore, Defence Minister Rajnath Singh informed the Parliamentary Consultative Committee that met in Mumbai today. Rajnath said during the last financial year ending March 31, 2022, the value of production of the defence shipyards was Rs 8,925 crore while the profit after tax deduction stood at Rs 928 crore. The minister exuded confidence that the shipyards would soon not only meet the domestic requirements, but also earn export orders on a competitive basis. "Friendly countries have appreciated the quality of the products manufactured by these shipyards," said MoD statement quoting Rajnath. The shipyards have been asked to increase procurement from the MSMEs to 25 per cent'

<https://www.tribuneindia.com/news/nation/mod-shipyards-have-rs-81k-crore-orders-govt-457092>

THE ECONOMIC TIMES

Sun, 04 Dec 2022

Indian Army's Bid to Acquire New Bulletproof Jackets to Leave Out Innovators, Startups

The Army's latest bid to acquire bullet-proof jackets for its soldiers is likely to leave out startups and innovators as clauses have been put in place that only allow established players to contest, besides giving leeway for raw material being sourced from China to be utilised by the contestants.

The Indian Army is looking to procure over 15,000 bullet-proof jackets for its soldiers under the emergency financial powers accorded to it by the government to meet immediate requirements faced due to the crisis on the northern borders.

As per specifications laid out in a tender issued last month by the Army, only parties that have an industrial licence and have been registered as a manufacturer for the past two years will be eligible to bid to supply the jackets. While this would qualify legacy players, a host of innovators will be left out, despite being encouraged and promoted by various defence ministry schemes under the Make in India initiative.

Besides, there are no clauses that restrict the use of Chinese raw material in jackets being supplied to the Army. As reported, earlier this year the defence ministry has mandated that Indian manufacturers need to certify that they are not dealing with Chinese entities.

In tenders issued by the Coast Guard and Navy this year, a specific clause had been introduced that banned the use of raw material from China. As reported by ET in 2019, a chunk of the '639

cr paid for the jackets by the Army landed up with Chinese companies after the Indian company changed its supplier after winning the procurement contest.

In June 2020, industry bodies also urged the government to make a policy to reduce dependence on Chinese material, saying that a sizeable amount of foreign exchange is being diverted to Chinese firms for import of raw material for protective gear.

<https://economictimes.indiatimes.com/news/defence/indian-armys-bid-to-acquire-new-bulletproof-jackets-to-leave-out-innovators-startups/articleshow/95985599.cms>



Sat, 03 Dec 2022

IAF Considers Replacing AN-32 with C-295 to Modernise Fleet

The Indian Air Force (IAF) is considering the possibility of replacing its Antonov-32 (AN-32) planes with the C-295s to modernise its transport fleet when the Soviet-origin workhorse comes up for retirement sometime after 2030, senior officials familiar with the matter said on Friday. The C-295 medium transport aircraft, which will be manufactured in India jointly by Tata Advanced Systems Limited (TASL) and European firm Airbus Defence and Space, comes as a replacement for the IAF's fleet of ageing Avro-748 planes that entered service in the early 1960s.

There's a growing consensus within the air force on the C-295s being the right fit to replace the AN-32s, said one of the officials cited above, asking not to be named. The IAF currently operates a fleet of more than 90 AN-32s that play a critical role in supporting forward deployed troops along the country's frontiers including Ladakh and the Northeast. "The C-295 is capable of carrying out the roles assigned to AN-32s, and can be a good replacement when the time comes. While the air force is not in a rush to zero in on a replacement for AN-32s as their phasing out will begin only after 2030, the C-295 fits the bill," said a second official, who also asked not to be named. India and Ukraine had inked a \$400-million deal in 2009 to modernise the AN-32 fleet.

Some of them were upgraded in Ukraine a decade ago to improve avionics and increase engine lifespan, while several others are being upgraded at an IAF repair facility in Kanpur. The Avro replacement project was in the works for more than a decade. The defence acquisition council — India's apex defence procurement body — gave its acceptance of necessity (AoN) in 2012 to replace the Avro planes with 56 new aircraft. Under India's defence procurement rules, an AoN by the council is the first step towards buying military hardware. In a shot in the arm for the government's Make in India initiative, Prime Minister Narendra Modi, on October 30, laid the foundation stone for a manufacturing facility being set up by the Tata-Airbus consortium at Vadodara in Gujarat for the C-295s, expected to replace the Avro aircraft. The event was the result of a Rs. 21,935-crore contract the defence ministry signed with Airbus Defence and Space last year for 56 C-295 aircraft.

TASL is jointly executing the contract, which is being seen as a boost to the government's Atmanirbhar Bharat (self reliant India) campaign. The development was seen as significant as a

military aircraft will be manufactured in India by a private consortium for the first time. "By the time the AN-32s come up for replacement, the last of the C-295s would have been delivered to the IAF as Avro replacement. Going in for C-295s as a substitute for AN-32 will ensure continuity in production," the second official added. As part of the contract, 16 C-295 aircraft will be delivered by Airbus in flyaway condition from Spain, and the remaining 40 will be manufactured in India.

The 16 flyaway aircraft are scheduled to be delivered between September 2023 and August 2025, while the first Made in India C-295 is projected to roll out of the new facility in September 2026, with the remaining estimated to be ready by August 2031. The C-295 is more than capable of replacing the AN-32 when the air force starts phasing out the latter in a decade, said Air Marshal Anil Chopra (retd), director general, Centre for Air Power Studies. "Continued production of C-295s in India will ensure timely deliveries, and a higher indigenous content. Advance planning ensures preparedness. The AN-32 is ageing and will ultimately require replacement," Chopra added.

The C-295 can carry up to nine tonnes of payload or 71 personnel (or 45 paratroopers) and has a maximum speed of 480 kmph. It can also operate from short or unprepared airstrips, has a rear ramp for para dropping troops and cargo, and will strengthen the logistic capabilities of IAF. It exceeds the performance of the Avro and AN-32 transport planes, and is extremely fuel efficient, IAF vice chief Air Marshal Sandeep Singh had said in October. Apart from the 56 planes already ordered, the C-295 facility at Vadodara will be capable of meeting additional requirements for the air force and also cater to export orders, officials said.

<https://www.hindustantimes.com/india-news/iaf-considers-replacing-an-32-with-c-295-to-modernise-fleet-101670008161968.html>

THE ECONOMIC TIMES

Sun, 04 Dec 2022

Imperative for India to Monitor Pakistan's Aberrant Nature: Lt Gen (retd) Kamal Davar

Chandigarh, Pakistan, which continued to follow an anti-India stance, is in the grip of an acute political chaos and it is imperative for India to carefully monitor the neighbouring country's aberrant nature, Lieutenant General (retd) Kamal Davar said on Sunday. India and Pakistan, unfortunately, have only had a tumultuous relationship despite sharing a common heritage and being compatriots in the freedom struggle against the Britishers, he said. "Born from the same womb of mother India, Pakistan since the advent of India's Independence in 1947 continued to follow an anti-India stance in all its politico- strategic formulations," Davar said.

He was speaking at the concluding day of the sixth edition of the Military Literature Festival here and was taking part in a discussion on 'Instability in Pakistan and its impact on India'. While Davar was the moderator, Colonel (retd) P K Vasudeva, defence analyst and distinguished fellow at Centre for Air Power Studies, New Delhi, Shalini Chawla and IAS officer R K Kaushik were also present. Davar, who was the first Director General of the Defense Intelligence Agency and

Deputy Chief of Integrated Defense Staff, asserted that Pakistan's policies towards India are nothing but myopic and self-destructive in nature.

"The negativity of the two-nation theory since 1947 continues unfortunately to drive their mindsets against India. Most of Pakistan's internal problems and its resultant instability can be attributed to the unbridled powers and the undying greed of the Pakistani deep state," he said. The former Army officer noted that Pakistan realises that it cannot halt India's march towards economic progress and rise as a regional and global power. Pakistan has thus been creating terrorists-related problems for India in Jammu and Kashmir and also in other parts of the hinterland and many other forms of cross-border provocations, he said. It is unquestionably in the throes of growing instability and gigantic economic problems, he said.

Davar said former Prime Minister Imran Khan, who was once the favourite of the Pakistan's Army, was now up in arms and clamouring for the fresh elections. However, the current Shehbaz Sharif government and the Pakistan Army would like to avoid it, he added. "He (Khan) is getting popular by the day," said Davar. Pakistan is now in the grip of acute political chaos and it is imperative for India to carefully monitor Pakistan's aberrant nature, he said.

While a lot of terrorism was being foisted upon by the Tehreek-e-Taliban Pakistan in Pakistan, Baluch and Afghan people were also hardening their stance against the Pakistan establishment, making the internal security situation there rather precarious, he added. Defense analyst Chawla said Imran Khan after exiting from the prime minister's office has been demonstrating his street power and building pressure for early elections. The former Pakistani PM held 50 'jalsas' and managed to strike a chord with masses mainly on three issues including corruption as the majority of Pakistanis see this as the factor behind the economic crisis of the country, Chawla said. Punjab cadre IAS officer Kaushik said there is no chance of instability getting wrapped in any way and the Pakistan establishment is not going to allow Imran Khan to come back to power. So instability is going to prevail for some more time, Kaushik added.

<https://economictimes.indiatimes.com/news/defence/imperative-for-india-to-monitor-pakistans-aberrant-nature-lt-gen-retd-kamal-davar/articleshow/95984638.cms?from=mdr>

The Tribune

Sat, 03 Dec 2022

A Tale of Two Wars

By Rajesh Ramachandran

The number 1962 is etched deeply in the Indian psyche, not merely as the year of a devastating defeat in war, but also as a metaphor for national humiliation. Something that reminds the nation of the perils of political hubris and nepotism in the military. The 60th anniversary of the India-China war, thus, is a great opportunity for Indian politicians, military leaders, strategic thinkers and commentators to once again take stock of what went wrong and plan to prevent another 'Himalayan blunder'. The 60th anniversary of the India-China war is a great opportunity for our politicians, military leaders and strategic thinkers to take stock of what went wrong. The Tribune has been publishing a series of articles commemorating the 60th anniversary of the war and some

of our readers found it revealing that even in defeat, Indians in uniform displayed extraordinary fortitude. Former Chief Election Commissioner MS Gill was so thrilled to read of the brave Sikhs fighting till the last man and the last bullet, not allowing their posts to be run over, that he phoned in for more stories of individual valour; and, letting out his characteristic chuckle, Gill sahib also wanted us to chronicle the tale of a member of an old colonial-collaborator family who ran away from the battlefield, leaving his turban behind. Well, let the cowards lie and the fearless be remembered.

PM Jawaharlal Nehru, defence minister VK Krishna Menon, Army chief Gen PN Thapar, defence secretary O Pulla Reddy, Intelligence Bureau Chief BN Mullick, Corps Commander Lt Gen BM Kaul and others are, rightly, blamed and remembered for their respective roles in sending India's matchless troops to death on the icy heights of the Himalayas without even basic winterwear, to say nothing of war-winning materiel. None of them is spared for the lack of preparedness and for getting conclusively fooled — politically, diplomatically and militarily. Now, after every incident in the north and east — be it at Doklam or Ladakh — Indians are reminded of the 1962 debacle, making policy-makers aware that no number of military exercises with the US at the eastern border will ever be enough to remain prepared against the neighbour's ambition to be a world leader.

Compare the Indians' sombre remembrance of their defeat with that of the Pakistanis'. The 50th anniversary of the 1971 War fell a year ago. Not much was heard from the all-powerful Pakistani military-intelligence establishment, which had been exulting over the Americans handing over Afghanistan back to them: Why look back when the future looks rosy, with a \$450-million military grant, getting dropped from the FATF watchlist and getting reinvited to the tango at Pentagon! Yet, the Pakistani military leadership did the unthinkable recently, which was one part ridiculous and one part scary. Former army chief Gen Qamar Javed Bajwa, on his retirement tour to military units, blamed the political leadership for the 1971 defeat. As if that was not enough, he claimed that only 34,000 troops fought the war for Pakistan against 2.5 lakh Indian and two lakh Mukti Bahini fighters. It is a well-documented fact that just 3,000 Indian soldiers defeated 30,000 Pakistani troops in the final battle for Dhaka. Of course, everybody but Bajwa knows that 92,000 Pakistani officers and men were captured as prisoners of war and that India treated them with honour and returned them graciously even as Indian pilots were languishing in Pakistani prisons. The Pakistani government had even issued a postage stamp in April 1973, seeking the return of 90,000 PoWs.

Worse, Bajwa seems to have forgotten that Pakistan was ruled by Yahya Khan, a military General, who claimed to be a descendent of Nadir Shah, the medieval invader who sacked Delhi. The debauched dictator was feted in Washington for facilitating Nixon's National Security Adviser Kissinger's meeting with Mao, thus opening the US-China strategic partnership lasting for about 40 years. Yahya Khan had chosen an equally brutal General, Tikka Khan — the Butcher of Balochistan — to be the governor of East Pakistan and another General, AAK Niazi, to be the military commander. The three Generals were responsible for the worst post-WW-2 genocide which the western media forgot to report. The official Bangladeshi count of the deaths during the conflict that ended in the Liberation War is 3 million dead — half the number of the victims of the Jewish holocaust. Officially, Pakistan admits that 26,000 civilians were killed.

Of the three million killed, at least half could be Hindus, but Indira Gandhi (whom Nixon loved to call 'that b***h') did not have a political agenda to count or categorise the bodies of the innocent dead. Over one crore refugees poured into India. While Hollywood still has not made a

movie on the Bengali holocaust, the American leadership celebrated Yahya during the holocaust and Tikka soon after. Tikka succeeded Yahya as the chief of army staff. The US, of course, did not think it right to deny visas to the butchers of Bangladesh. The death of hundreds of thousands, if not three million, never seemed to have overwhelmed the predecessors of those who denied the Gujarat chief minister a US visa over a communal riot that was investigated for 10 years by his political rivals.

The fatalities of the 13-day war that India won were few compared to the civilian deaths. But western-funded organisations like Amnesty International, which sought the commutation of the death sentences of the foot soldiers of the old US allies, never really investigated the 1971 war crimes or established the murders and rapes committed on the explicit orders of Yahya, Tikka and Niazi. Had their crimes been established, and their political careers exposed and visas denied to them, their successors would not have launched their Islamist misadventure in Kashmir that resulted in the exodus of Hindus from the Valley, nor the Kargil incursion, nor the attack on Mumbai. After every failure, the Pakistani army gives itself a fig leaf of lies, blaming a non-existent political leadership. There was only a military leadership, in alliance with the US, in Pakistan in 1971, just as there is one now, too. Wonder what mischief the new one is up to.

<https://www.tribuneindia.com/news/comment/a-tale-of-two-wars-457076>

The Tribune

Sun, 04 Dec 2022

Military Literature Festival: Scholar-Warrior, Army's Ethos Changing, Says Ex-Commander

Changing ethos in the Army has translated into cross-generational leadership and today we have the “scholar-warrior”, who infuses dissent, said Lt Gen BS Jaswal, former General Officer Commanding-in-Chief, Northern Command, on the second day of the Military Literature Festival here today. “Today’s generation wants to ask ‘why’ of everything, which was not the case earlier. One has to mould oneself accordingly,” he said while moderating a session on “Ethos of Soldiering in India”. “Soldiering without ethos is defunct. A warrior’s ethos shapes the outcome of battles by infusing leadership, courage, patriotism, sacrifice, commitment and loyalty. Leadership is not about impressing anyone, but about making an impact,” Lt Gen Jaswal said. Maj Gen Raj Mehta (retd) cited the examples of Indian commanders and said personality played an important role in leadership and could turn despair into confidence. Maj Gen PJS Sandhu (retd) said, “Steadfastness in a battle is the hallmark of the Indian soldier. In the Indian context, completing a mission takes precedence over other tasks.”

Experts discuss Pakistan

Experts discussed the prevailing instability in Pakistan and its impact on India during a panel discussion, with the opinion being that the neighbouring country would continue to face problems. Defence Intelligence Agency former head Lt Gen Kamal Davar said the “deep state” in Pakistan, manifested by unbridled powers and undying greed, had worsened relations with India. Shalini Chawla, a fellow at the Centre for Air Power Studies, New Delhi, said: “The newly

appointed Pakistan army chief has a daunting task ahead as he needs to revive the army's position and respect in society."

'Democratic institutions robust'

Punjab Chief Minister Bhagwant Mann has said democracy in India is flourishing only because the armed forces maintain a constant watch on the borders in adverse conditions, while other citizens sleep comfortably in their homes. "Democratic institutions in India remain strong and robust. Though the country attained Independence 75 years ago, it is important to preserve freedom," he said at the closing ceremony of the literature festival.

<https://www.tribuneindia.com/news/nation/scholar-warrior-armys-ethos-changing-says-ex-commander-457821>

The Tribune

Sat, 03 Dec 2022

Modern Tech Key to Fighting War: Experts

The role of a sound doctrinal approach to fighting war, integrating modern technology and establishing effective communication on the battlefield was highlighted at a session on "Shaping of Modern Conflicts by Niche Tech: Russia-Ukraine Conflict & Beyond" at the Military Literature Festival here today. Maj Gen Harvijay Singh (retd) said the Ukrainians built a cellular communication system in a manner that gave large bandwidth to all users, including civilians. Brig Saurabh Bhatnagar, a serving Sapper officer, said: "The silicon chip, a key technology, has grown exponentially, leading to the development of autonomous machines such as drones, advanced robotics, artificial intelligence, new-age materials and genetically augmented humans."

'Af was re-run of Vietnam War'

During a session on "In history, those nations that have endured have won", The Tribune's defence expert Ajay Banerjee discussed the legacy of conquests of military general Zorawar Singh in the Himalayas against all odds. He said it should be debated whether or not conquering Lhasa was possible for Zorawar Singh, who was assassinated on December 12, 1841. Prof Sukhdev Singh Sohal from the GNDU said: "Afghanistan was a re-run of the Vietnam War for the US." 'Develop maritime power' Former Chief of Navy Staff Admiral Sunil Lanba pointed out that India was an energy-deficient country that imported 90 per cent of its requirements. He stressed the need to have a national vision on developing maritime power. He was speaking at a session on "Relevance of Aircraft Carriers in Power Projection".

Vice Admiral Girish Luthra, former Flag Officer Commanding-in-Chief, Western Naval Command, spoke on the complex security situation in the Indo-Pacific region and highlighted emerging challenges. Min urges youth to join Army. Punjab Minister for Tourism and Cultural Affairs Anmol Gagan Maan on Saturday appealed to the youth to join the armed forces and make their valuable contribution to serve the country. Inaugurating the sixth edition of the Military Literature Festival here, she said: "Every citizen of India leads a peaceful life only because soldiers are securing the country."

<https://www.tribuneindia.com/news/nation/modern-tech-key-to-fighting-war-experts-457427>

‘None of China’s Business’: After India’s Comeback, US Diplomat Skewers Beijing

Military exercises by India and the US are none of China’s business and Washington will back New Delhi’s efforts to develop its capabilities to face regional challenges, the senior-most American diplomat in India said on Friday. The recent meeting between US President Joe Biden and his Chinese counterpart Xi Jinping on the margins of the G20 Summit in Bali doesn’t signal a rapprochement and there shouldn’t be any concerns about the US diluting its relationship with India or its commitment to the Indo-Pacific, chargé d’affaires (CDA) Elizabeth Jones told a small group of Indian reporters.

Her comments came a day after India too rejected China’s opposition to an India-US joint military exercise being held near the Line of Actual Control (LAC) and said New Delhi does not give a veto to any third country on such matters. “On the exercises and China’s comment on it, I would point you to the kind of statements that we’ve heard from our Indian colleagues to the effect that it’s really none of their business,” Jones said in response to a question on China’s opposition to the Yudh Abhyas exercise conducted at Auli in Uttarakhand, 100 km from the LAC. The Chinese foreign ministry had contended the drills violate border management agreements signed by China and India in 1993 and 1996.

Responding to a question on what the US can do to help India face challenges from China, Jones said: “This is something for India to talk about. Our interest is in supporting India’s efforts to become more capable and to ensure that its capacities are directed in ways they [India] believe to be important. It’s up to the Indian leadership to determine what it wants and what it needs, and we’re there to be supportive.” India-US defence ties have grown at a steady clip in the past two decades, and Jones said the US conducted more military exercises with India than any other country in 2022. The US sees its ties with India “as one of our most consequential relationships” and defence cooperation is part of the “natural partnership” between the two sides, said Jones, a career ambassador with extensive experience in handling relations with Europe, Afghanistan and Pakistan.

The US is also focused on Prime Minister Narendra Modi’s desire to increase defence production as part of the Make in India initiative and American companies are interested in participating in co-production initiatives. “There are constant conversations, meetings and exercises to assure that we have a good understanding of the capabilities of each other and a good understanding of how we might be able to cooperate,” she said.

Jones said that although Biden met Xi on the sidelines of the G20 Summit last month and discussed a lot of issues, “it doesn’t necessarily mean there is a rapprochement, it doesn’t necessarily mean that we are turning our backs on each other”. The meeting was about having conversations on issues that the US and China “fundamentally disagree” on and it helped both sides have a better understanding of each other’s position. “The Indian leadership has meetings with the Chinese as well for the exact same reasons... I wouldn’t look at this as a way to worry about the US-India relationship...or the US attitude about the Indo-Pacific. We are as committed

to our goals in the Indo-Pacific region as we ever have been. And having conversations with China just makes it easier to understand the extent of the commitments that would be most productive,” Jones added.

The US perceives its relationships with India and Pakistan as “two completely separate policy forums and one is not dependent on the other or related to the other,” Jones said. At the same time, it is “not for the US to comment on India-Pakistan relations,” she added. A recent US package sale was aimed only at the maintenance of Pakistan’s F-16 jets and there was no upgrade involved, she said. In response to a question on what the US is doing to push Pakistan to act against the perpetrators of the 2008 Mumbai terror attacks, in which American citizens were also among the 166 dead, Jones said her country was “horrified” by the events of November 2008. “The US government has spent a lot of time with the governments of India and Pakistan in discussing the appropriate consequences of this,” she said.

The international community is working hard to find ways to shut down financial support for terrorist organisations, to short-circuit the recruiting of vulnerable youth, and to help people who have been radicalised, she said. “This is something that hasn’t been solved yet in the international community, in India and the US,” she added. Jones also said the depth of the bilateral relationship allows the US to have a “frank discussion” with India on social challenges. “In the US, the treatment of ethnic, racial and religious minorities attracts a lot of attention, just as it does here.

We can learn from each other on how to promote tolerant behaviour among diverse communities because we have similar experiences and similar challenges in those social areas,” she said. “This is a conversation we have perpetually with our Indian colleagues. One of the benefits of this consequential relationship that we have is that we are able to discuss a great variety of...easy [and] difficult issues, issues on which we agree and issues on which we don’t yet agree. We’ve been discussing this for a long time and we will continue to do so.”

<https://www.hindustantimes.com/india-news/indiaus-military-exercises-none-of-china-s-business-us-cda-elizabeth-jones-101669990360598.html>



शनिवार, 03 दिसंबर 2022

दुनिया का सबसे एडवांस लड़ाकू विमान B-21 लॉन्च:राफेल से भी 2 पीढ़ी आगे; इसे पकड़ सके अभी तक ऐसा रडार नहीं बना

दुनिया का सबसे एडवांस लड़ाकू एयरक्राफ्ट B-21 रेडर लॉन्च हो गया है। शुक्रवार, यानी 2 दिसंबर को ये अमेरिकी एयरफोर्स के बेड़े में शामिल हुआ। नए साल की शुरुआत में ये तबाही मचाने के लिए तैनात हो जाएगा। B-21 रेडर फ्रांस के राफेल से भी 2 जनरेशन एडवांस है। राफेल 4.5 जनरेशन का है, जबकि B-21 6ठवें जनरेशन का एयरक्राफ्ट है। अमेरिकी एयरफोर्स में शामिल होते ही दुनिया भर में इसके

स्पेसिफिकेशन की चर्चा हो रही है। भास्कर एक्सप्लेनर में B-21 रेडर एयरक्राफ्ट की खूबियां और इससे जुड़े सवाल के जवाब जानेंगे सबसे पहले एक ग्राफिक में दुनिया के सबसे एडवांस मिलिट्री एयरक्राफ्ट की खूबियां!



B-21 रेडर की खासियत



6वां जनरेशन:
B-21 रेडर सबसे एडवांस छठे जनरेशन का एयरक्राफ्ट है। ये अमेरिकी एयरफोर्स के B-1, B-2 ग्रुप के एयरक्राफ्ट का अपडेटेड वर्जन है।

स्टील्य तकनीक:
इसे विमानों, जहाजों, पनडुब्बियों में होने वाली तकनीक का इस्तेमाल करके बनाया गया है। इसलिए इसे रडार, इन्फ्रारेड, सोनार से पकड़ना मुश्किल है।



पारंपरिक और परमाणु हथियार ले जाने में सक्षम:
B-21 रेडर पारंपरिक और परमाणु हथियार से लैस होकर हमला करने में सक्षम है। यह आसमानी लड़ाई लड़ने वाला सबसे आधुनिक हथियार होगा।



डिजिटल बॉम्बर एयरक्राफ्ट:
B-21 एक डिजिटल बॉम्बर एयरक्राफ्ट है। बिना पायलट के भी इसे डिजिटली ऑपरेट करना संभव है। इस एयरक्राफ्ट के सॉफ्टवेयर में एडवांस तकनीक का इस्तेमाल किया गया है।

क्लाउड टेक्नोलॉजी:
ये अमेरिकी एयरक्राफ्ट क्लाउड टेक्नोलॉजी से ऑपरेट होता है। ऐसे में अगर इस पर हमला हो भी जाता है तो डेटा सुरक्षित रहेगा।



ओपन आर्किटेक्चर:
इस एयरक्राफ्ट को ऐसे डिजाइन किया गया है कि भविष्य में किसी भी खतरे से निपटने के लिए नया सॉफ्टवेयर लगाकर इसे आसानी से अपडेट किया जा सकेगा।

टॉप साइंटिस्ट माइंड:

2015 में ये प्रोजेक्ट मिलने के बाद कंपनी ने अमेरिका के 8000 एयरक्राफ्ट साइंटिस्टों की एक टीम बनाई। ये एयरक्राफ्ट इन टॉप मोस्ट एक्सपर्ट माइंड की देन है।

दुनिया में कहीं भी हमला करने में सक्षम:

इसे बनाने वाली कंपनी ने दावा किया है कि दुनिया के किसी भी हिस्से की निगरानी, खुफिया जानकारी हासिल करने और इलेक्ट्रॉनिक हमला करने में ये एयरक्राफ्ट सक्षम होगा।

लंबी लड़ाई में सक्षम:

B-21 रेडर को लंबे समय की लड़ाई के लिए बनाया गया है। कम खर्च में किसी ऑपरेशन के लिए इसे डिजाइन किया गया है।

एयरक्राफ्ट की साइज:

B-21 रेडर एयरक्राफ्ट जितना खतरनाक है, इसका साइज उतनी ही छोटा है। ये दुनिया का सबसे छोटे साइज का बॉम्बर एयरक्राफ्ट है।



अब दुनिया के इस खतरनाक एयरक्राफ्ट से जुड़े कुछ अहम सवालों के जवाब जानि

सवाल-1: इस एयरक्राफ्ट का नाम B-21 रेडर कैसे पड़ा है?

जवाब: अमेरिकी एयरक्राफ्ट B-1, B-2 ग्रुप के अपडेटेड बॉम्बर एयरक्राफ्ट होने की वजह से इसका नाम 'B' से शुरू हुआ है। 'नॉर्थ्रॉप ग्रूमैन' कंपनी के मुताबिक एयरक्राफ्ट के नाम में 'रेडर' जोड़े जाने का सेकेंड वर्ल्ड वॉर से कनेक्शन है। दरअसल, 18 अप्रैल 1942 को अमेरिकी एयरफोर्स के कर्नल जिमी डूलटिल ने 80 साथियों के साथ जापानी द्वीप पर हमला किया था। पर्ल हार्बर में किए गए हमले का बदला लेने के लिए अमेरिका ने अब तक का सबसे बड़ा और खतरनाक हवाई हमला किया था। हमला करने वाले इस जत्थे को 'डूलटिल रेडर्स' के नाम से जाना गया। एयरक्राफ्ट बनाने वाली कंपनी ने इन लड़ाकों को सम्मान देते हुए इसका नाम B-21 रेडर रखा है।

सवाल-2: B-21 रेडर छठे जनरेशन का एकलौता एयरक्राफ्ट है या कोई और भी है?

जवाब: अमेरिका एयरफोर्स के बेड़े में शामिल होने वाला B-21 रेडर छठे जनरेशन का एकलौता एयरक्राफ्ट है। चीन, जापान, रूस, यूके और फ्रांस इस टेक्नोलॉजी पर काम कर रहे हैं।

सवाल-3: B-21 रेडर एयरक्राफ्ट अमेरिका के लिए कितना महत्वपूर्ण है?

जवाब: दुनियाभर में तैयार किए जा रहे आधुनिक हथियारों के बीच B-21 रेडर अमेरिका के लिए एक 'स्ट्रेटजिक एसेट' यानी रणनीतिक संपत्ति होगा। अभी किसी देश के पास ऐसा हथियार नहीं है। ऐसे में अमेरिका इसके जरिए दुनिया के किसी भी हिस्से पर हमला की धमकी चेतावनी देकर जियोपॉलिटिक्स में सरदार बना रहेगा।

सवाल-4: अमेरिका को नए स्टील्थ बॉम्बर की जरूरत क्यों है?

जवाब: अभी अमेरिका के पास केवल 10% एयरक्राफ्ट ऐसे हैं जो रडार को चकमा देकर कहीं भी हमला कर सकते हैं। अगर किसी देश ने रडार को अपडेट कर लिया तो ये 10% एयरक्राफ्ट भी फेल हो सकते हैं। ऐसे में अमेरिका से रूस और चीन को साधने के लिए अमेरिका को ऐसे एयरक्राफ्ट की जरूरत थी, जो किसी देश को भनक लगे बिना उस देश में घुसकर हमला कर सके। इस जरूरत को B-21 रेडर पूरा करता है।

सवाल-5: अमेरिका में कितने B-21 रेडर एयरक्राफ्ट बन रहे हैं?

जवाब: अभी अमेरिकी एयरफोर्स ने 'नॉर्थ्रॉप ग्रूमैन' कंपनी से 6 B-21 रेडर एयरक्राफ्ट खरीदा है। कंपनी ने अपनी वेबसाइट पर बताया है कि अमेरिका आगे 100 एयरक्राफ्ट खरीदने वाला है। एक्सपर्ट का कहना है कि अमेरिका को कम-से-कम 200 ऐसे एयरक्राफ्ट खरीदने चाहिए।

सवाल- 6: ये विमान कब पहली बार उड़ान भरेगी?

जवाब: रेडर का निर्माण करने वाली कंपनी नॉर्थरोप ग्रुमेन कॉरपोरेशन की मुख्य कार्यकारी अधिकारी कैथी वार्डन ने कहा कि विमान के 2023 से पहले उड़ान भरने की संभावना नहीं है। हालांकि उन्नत कंप्यूटिंग का उपयोग करके नॉर्थरोप ग्रुमेन रेडर के प्रदर्शन का परीक्षण कर रहा है।

सवाल-7: अमेरिका ने 'नॉर्थ्रॉप ग्रूमैन' कंपनी को ही इसे बनाने की जिम्मेदारी क्यों दी है?

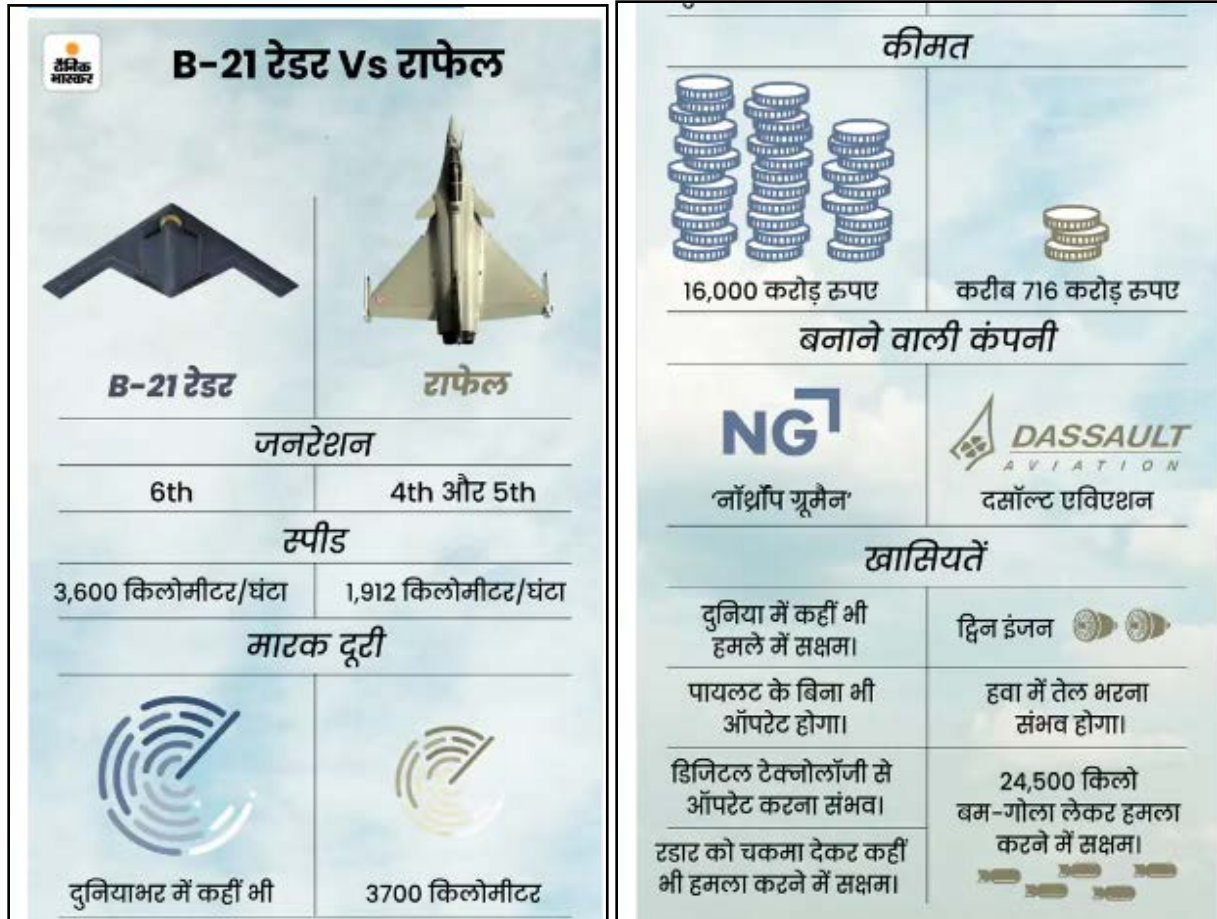
जवाब: 'नॉर्थ्रॉप ग्रूमैन' स्टील्थ तकनीक के मामले में दुनिया की टॉप कंपनी है। इससे पहले भी इस कंपनी ने B-1, B-2 जैसे ताकतवर एयरक्राफ्ट बनाए थे, जो इस समय भी अमेरिकी एयरफोर्स के बेड़े में शामिल हैं। इसके अलावा बिना इंसानों के ही ऑपरेट किए जाने वाला दुनिया के टॉप फाइटर एयरक्राफ्ट 'X-47B' और 'ग्लोबल हॉक' विमान को भी इसी कंपनी ने बनाया है। यही वजह है कि अमेरिका सरकार ने इस कंपनी को ये जिम्मेदारी दी है।

सवाल-8: कंपनी ने B-21 एयरक्राफ्ट की तस्वीर और फीचर्स क्यों नहीं शेयर किए हैं?

जवाब: इस एयरक्राफ्ट को बनाने वाली कंपनी 'नॉर्थ्रॉप ग्रूमैन' के उपाध्यक्ष और महाप्रबंधक डफ यंग ने कहा है कि B-21 पूरी दुनिया में नए तरह का इनोवेशन है। हालांकि, अमेरिकी सरकार या बनाने वाली कंपनी ने अब तक B-21 के फीचर्स की जानकारी और तस्वीर शेयर नहीं की है। अभी जहां भी B-21 की तस्वीर शेयर हो रही है, वह काल्पनिक और कलाकारों के बनाए गए हैं। एक्सपर्ट का कहना है कि ऐसा इसलिए किया गया है ताकि चीन, रूस और अन्य लोग डिजाइन की नकल करके ऐसी तकनीक का आविष्कार न कर लें, जो इस विमान को आसानी से मारकर गिरा दे।

सवाल- 9: अमेरिका के पास इस वक्त कौन सा फाइटर और बॉम्बर एयरक्राफ्ट है?

जवाब: B-21 रेडर के लॉन्च होने से पहले ही अमेरिका के पास कई खतरनाक फाइटर और बॉम्बर एयरक्राफ्ट हैं। जैसे- B-1B, B-2 A, A- 10C थंडरबोल्ट II, B-52H, F-15C ईगल, F-22A रैप्टर, F-16D फाइटिंग फॉल्कन इसके उदाहरण हैं। अब एक ग्राफिक्स में जानिए कि B-21 रेडर और राफेल में क्या अंतर है!



भास्कर एक्सप्लेनर के नॉलेज बढ़ाने वाले कुछ और ऐसे ही रोचक आर्टिकल हम नीचे पेश कर रहे हैं

<https://www.bhaskar.com/db-original/explainer/news/b-21-raider-features-vs-rafale-aircraft-comparison-explained-130633806.html>

The Tribune

Sun, 04 Dec 2022

China Setting up Military Base in Indo-Pacific Region

After setting up its first overseas military base at Djibouti (Africa) in 2017, China is looking at a base in Cambodia in the Indo-Pacific and close to the maritime dispute in the South China Sea.

Deep port facility in Cambodia

- In early 2021, dredgers spotted off Cambodia's Ream Naval Base, where China is funding construction of a deep port facility
- In June 2021, Cambodian Defence Minister accepted China would help expand and modernise the base

A US Department of Defence report titled 'Military and Security Developments Involving the People's Republic of China' released on November 30 said: "The Chinese military facility at Ream Naval Base in Cambodia will be the first overseas base in the Indo-Pacific". In early 2021, dredgers were spotted off Cambodia's Ream Naval Base, where the Chinese are funding construction work to have a deep port facility — necessary for the docking of larger military warships. In June 2021, Cambodian Defence Minister accepted that China would help modernise and expand the Ream Naval Base. The US assessment says China is seeking to expand its overseas logistics and basing infrastructure to allow the People's Liberation Army (PLA) of China to project and sustain military power at greater distances. The PLA base in Djibouti now has an operational 450-metre ship berthing pier which will be able to accommodate the Chinese Navy's aircraft carriers, other large combatants and even submarines.

After kicking off work in Cambodia, the likely other places being considered for military bases are in Myanmar, Thailand, Singapore, Indonesia, Pakistan, Sri Lanka, the UAE, Kenya, Equatorial Guinea, Seychelles, Tanzania, Angola, and Tajikistan among other places as locations for PLA military logistics facilities. China has probably already made overtures to Namibia, Vanuatu, and the Solomon Islands which are well known. Not all attempts of China are expected to fructify. Such bases not just help in military conflict but enable diplomatic signalling, political change, bilateral and multilateral cooperation and training. Crucially, all this will enable intelligence gathering. Beijing may use a mixture of military logistics models. These could include a preferred access to commercial infrastructure abroad, exclusive logistics facilities with prepositioned military supplies and bases with forces stationed. Some of China's Belt and Road Initiative (BRI) projects could create a potential military advantage, with PLA getting access to foreign ports to pre-position the logistics support to sustain naval deployments in the Indian Ocean, Mediterranean Sea and Atlantic Ocean.

<https://www.tribuneindia.com/news/nation/beijing-setting-up-military-base-in-indo-pacific-region-457796>



Sat, 03 Dec 2022

Turkish Indigenous VLS 'MIDLAS' Performs First Ever Launch

Turkish Navy's first indigenous vertical launching system passed an important milestone. Turkish Ministry of Defence announced the first test launch of the MIDLAS was successfully carried out by Roketsan with an indigenous HISAR RF missile at the Aksaray test range. Turkish Defence Agency (SSB) and Roketsan also announced the milestone. "The first firing test of the Roketsan-made National Vertical Launch System (MIDLAS) was successfully conducted. the

#MIDLAS will enter service for the Turkish Naval Forces in 2023 after its integration into the frigate ISTANBUL.”

MIDLAS is one of the most important projects for the Turkish Naval Forces. This is because this system will replace Lockheed Martin’s Mk 41 VLS, which was originally intended for the I-class frigates. After the U.S. imposed CAATSA sanctions on Turkey in 2020, Roketsan accelerated the national VLS project, initially intended for the TF-2000 air defense destroyers after 2027, to complete the system before the commissioning of the lead ship of the I-class frigates, the future TCG ISTANBUL (F-515). In the initial phase, the MIDLAS will give air defense capability to Turkish Navy ships by launching indigenous Hisar RF missiles. Later, SIPER Block-1 (a long-range air defense system), ATMACA, and other national missiles will be integrated into MIDLAS. This will allow the Turkish Navy to deploy a wide range of defensive and offensive missiles on its platforms.

Speaking to the state-run Anadolu Agency, Murat IKINCI, CEO of Roketsan, pointed out that the company is working with the Turkish Navy and SSB for the MIDLAS project. He said that the company is prioritizing the integration of the missiles in accordance with the needs of the Turkish Navy. “With this project, we will be able to integrate our national missiles much easier and faster. In the next phases, we intend to meet the vertical firing needs of all indigenous warships as part of the MIDLAS project. The fact that these weapon systems have reached the stage of using national munitions paves the way for Turkey to act completely independently in this regard. We intend to launch SIPER Block-1 from MIDLAS. Atmaca and equivalent missiles are on our agenda.”

<https://www.navalnews.com/naval-news/2022/12/turkiyes-midlas-debuts-with-hisar-surface-to-air-missile/>

DefenseNews

Sun, 04 Dec 2022

US Air Force Chief: Military Must ‘Pick Some Winners’ Among Startups

To take advantage of the needed capabilities offered by technology startups, the military has to focus more specifically on a smaller number of companies to nurture, the Air Force’s top officer said Saturday. Gen. CQ Brown, speaking here on a panel at the Reagan National Defense Forum, said that he visited Silicon Valley recently and met with multiple companies and venture capitalists. While he didn’t identify specific firms, he said he “learned a lot this past week on semiconductors and artificial intelligence.” “What we’ve got to do is actually pick some winners,” he said, pointing to rocket maker SpaceX as an example of an innovative company that has gained traction in the defense space.

“How we align and bring them forward — it’s going to take some nurturing,” Brown said of helping new tech companies move through the acquisition process. “It’s like hand-walking a staff package through the Pentagon to make sure it gets done.” Once successful, Brown added, the military will have developed a “pattern of doing things a little differently.” Commercial tech

firms have become increasingly involved in the annual Reagan Forum, but the event's panelists generally represent large firms, such as Microsoft or Google. Indeed, speaking on the same panel, Karen Dahut, a former Booz Allen Hamilton executive recently tapped to run Google's public sector business, said this is the most fruitful time for innovative companies focused on aerospace and defense, given significant VC investment.

"We need to get that capital working for us," she said, referring to the military. "Those companies have not been able to get to a scaled program inside the department." Dahut advocated for picking several key technologies and giving them to troops for testing. A group overseen by the deputy defense secretary is working aggressively to address the "pain points" faced by small companies who want to work with the Pentagon, according to Heidi Shyu, the under secretary of defense for research and engineering. She said she presented to the deputy defense secretary a collection of issues she heard during meetings with small companies.

Kathleen Hicks, the No. 2 civilian in the department, said, "This is great. Let's go tackle this," and then brought in other Pentagon offices, including acquisition and sustainment, the chief information office and the chief digital and artificial intelligence office, among others, Shyu said. Now, those offices are tackling a variety of issues, from security clearance issues to workforce challenges. Hicks is holding monthly meetings on their progress, Shyu said. The goal is to "simplify our contracting so we can award small companies much quicker, rather than taking many, many months," she added. "We absolutely are trying to tackle a lot of acquisition pain points."

<https://www.defensenews.com/industry/2022/12/04/air-force-chief-military-must-pick-some-winners-among-startups/>

DefenseNews

Sun, 04 Dec 2022

Pentagon Chief: US Faces Pivotal Years in Countering China

The U.S. is at a pivotal point with China and will need military strength to ensure that American values, not Beijing's, set global norms in the 21st century, Defense Secretary Lloyd Austin said Saturday. Austin's speech at the Reagan National Defense Forum capped a week in which the Pentagon was squarely focused on China's rise and what that might mean for America's position in the world. On Monday it released an annual China security report that warned Beijing would likely have 1,500 nuclear warheads by 2035, with no clarity on how China would seek to use them. On Friday in a dramatic nighttime rollout, Austin was on hand as the public got its first glimpse of the military's newest, highly classified nuclear stealth bomber, the B-21 Raider, which is being designed to best the quickly growing cyber, space and nuclear capabilities of Beijing.

China "is the only country with both the will and, increasingly, the power to reshape its region and the international order to suit its authoritarian preferences," Austin said Saturday. "So let me be clear: We will not let that happen." The Pentagon is also concerned about Russia and remains committed to arming Ukraine while avoiding escalating that conflict into a U.S. war with Moscow, he said at the forum, held at the Ronald Reagan Presidential Library. "We will not be

dragged into Putin’s war,” Austin said. “These next few years will set the terms of our competition with the People’s Republic of China. They will shape the future of security in Europe,” Austin said. “And they will determine whether our children and grandchildren inherit an open world of rules and rights — or whether they face emboldened autocrats who seek to dominate by force and fear.”

Still, between the two nuclear power threats, China remains the greater risk, Austin said. To meet that rise, “we’re aligning our budget as never before to the China challenge,” Austin said. “In our imperfect world, deterrence does come through strength.” The bomber is part of a major nuclear triad overhaul underway that the Congressional Budget Office has estimated will cost \$1.2 trillion through 2046.

It includes the Raider serving as the backbone of the future air leg of the triad, but it also requires modernizing the nation’s silo-launched nuclear intercontinental ballistic missiles and its nuclear submarine fleet. The Defense Department has the largest discretionary budget of all the federal agencies, and it may receive up to \$847 billion in the 2023 budget if Congress passes the current funding bill before this legislative session ends. However, defense advocates argue it is still not enough to modernize and keep up with China because much of that spending goes to military personnel. The CBO estimates that about one-quarter of the defense budget is spent on personnel costs such as salaries, health care and retirement accounts.

<https://www.defensenews.com/news/pentagon-congress/2022/12/04/pentagon-chief-us-faces-pivotal-years-in-counteracting-china/>



Sun, 04 Dec 2022

Bayraktar TB2 Drones ‘Out of Action’ from Ukraine War; Russia’s Air Defense or Diplomacy behind their Disappearance?

By Ashish Dangwal

The Turkish drones’ success was extensively covered in the media in the initial stages of the war. The success of these drones was documented in countless videos heavily shared on social media, depicting Ukrainian drones decimating Russian advances. However, the sudden disappearance of these drones from both the battlefield and from the media has baffled many analysts who are trying to figure out the rationale behind the action. Russian reports claim that since the start of the conflict, Russian military forces have knocked down at least 130 Ukrainian drones. However, the Russian figure differs dramatically from the number of drones sent by Turkey. Ukraine has received 50 drones, according to Turkey.

Russian media outlets have also highlighted the lack of latest information regarding Bayraktar TB2’s combat operations in Ukraine since mid-August. Turkish drones are not operating as effectively as they were in Libya, Syria, and particularly during the Nagorno-Karabakh war. The strikes on Snake Island, which started in the first weeks of May and went on until the end of

June, were one of the Turkish drones' last notable confrontations. Numerous experts opined that Russia had taken note of its mistakes and boosted the efficiency of its layered air defense system.

Meanwhile, it has been reported that the US intends to sell Ukraine General Atomics MQ-1C Gray Eagle armed drones, which are more capable than TB2s. However, the US is equally concerned that Russia may be able to knock out Gray Eagle armed drones, which would result in the loss of cutting-edge US technology. The US also fears that the drones could end up in the hands of Russian military-tech experts.

Factors Behind The Absence Of Turkish Drones

The fact that Russia has strengthened its defense systems and is shooting down and jamming many of Ukraine's drones is one of the reasons Turkish drones could be losing effectiveness. Samuel Bendett, an analyst and expert in unmanned and robotic military systems, noted that Russian electronic warfare and air defenses have improved in coordination and deployment compared to the early stages of the conflict.

He added that Russian forces are using early warning radars to locate drones, and electronic warfare weapons are being used to jam and interfere with their transmission. The Chief of the Air Staff (CAS) of the Indian Air Force (IAF) recently noted that "Inputs about the effectiveness of the Remotely Piloted Aircraft (RPAs) have been mixed. While initial reports were largely positive, as the major action shifted to the East, where a structured Russian AD system was available, most inputs indicate high vulnerability and limited impact.

"This highlighted the need for a multi-layered and ranged air defense system with both hard and soft kill options for dealing with RPAs. However, definitive conclusions can only be reached once the entire context and conditions become clear," he added. Besides that, Moscow also employs a variety of weapons, including machine guns and air defense systems, like the Tor missile system, to shoot drones.

In this new chapter of the conflict, Ukraine's drones are getting less effective, but Russia is efficiently using Iranian-made drones. Latest reports have also suggested that Russia has not used Iranian-origin drones for quite some time and could be running out of 'cheap and chirring' UAVs. Russian media also speculated that the gas agreement between Russia and Turkey might be another factor in the less usage of Turkish drones in combat.

It was previously stated that Russian President Vladimir Putin had placed conditions on Turkish President Recep Tayyip Erdogan to stop delivering Turkish drones to Ukraine to keep the gas deal alive. As a result, Turkey is reportedly not making any new TB2 drone deliveries to Ukraine. The EurAsian Times had also reported that Baykar backed out from establishing a drone factory in Ukraine in collaboration with a state-run defense company. Russian media claim that political machinations between Russia and Turkey, rather than Russian air defense systems, are to blame for the absence of Turkish drones.

<https://eurasianimes.com/bayraktar-tb2-drones-out-of-action-from-ukraine-war-russias/>

ISRO's Open Infrastructure is Giving Wings to Startups

Like any starry-eyed Elon Musk fanboy, Awais Ahmed walked around SpaceX's hangar gazing at the sleeping Falcon 9s - reusable rockets that land back on earth. Ahmed was no ordinary fanboy. He was among a bunch of Hyperloop Pod finalists - a SpaceX initiative to inspire young scientists - who had received an invitation to visit its headquarters in Hawthorne (California) in 2017 and shake hands with the Tesla Inc co-founder himself. For Ahmed, the moment felt surreal, like walking the hallowed corridors of a holy site or Disneyland. The SpaceX experience changed his life, and five years on, Ahmed – the cofounder and chief executive of Bengaluru-based space tech startup Pixxel – has managed to board his low-earth orbit (LEO) satellite on to a FalconX. “While there [SpaceX facilities in the United States], they took us on a tour of the factory. Looking at the rocket engines being built, I felt strongly that this is what I wanted to do in life. That was a Eureka moment for me: I decided I want to work in space [space tech] for the rest of my life,” Ahmed told ET.

The LEO satellite's lift-off in April was the second among three demo satellites slated for space before Pixxel's six-satellite commercial constellation, which would beam down saleable data that would offer a rich view into a variety of applications, from crop damage to illegal mining to oil pipeline bursts to irrigation trends. Ahmed's goals may have crystallized in California, but it grew wing in India just after the onset of the Covid-19 pandemic in June 2020, as the Department of Space decided to set up an independent authorizing body to vet private sector applications and enable startups to use the Indian Space Research Organisation's facilities. Startups could test, consult with Isro scientists on product development and research, and get ready launchpads.

Opening up Isro's facilities to the private sector was an oft-debated topic at the Department but the directive came from Prime Minister Narendra Modi, former Isro chairperson K Sivan told ET over phone. “I followed up on the PM's intent by executing his vision – from preparing the Cabinet note in consultation with the Prime Minister's Office (PMO) on the structure of IN-SPACE, the infrastructure-sharing and other salient features of the idea,” Sivan, the 65-year-old space scientist from Tamil Nadu's Kanyakumari district who had overseen several rocket launches and projects at Isro, including an ambitious lunar mission, said. IN-SPACE, short for Indian National Space Promotion and Authorization Centre, is an autonomous agency under the Department of Space which had operated as a scientific committee for two years before it was formalized with its own separate headquarters in Ahmedabad in June this year. Sivan said the decision to throw open some part of the space programme for private participation also came with an eye on the market.

“The global space economy at \$450 billion has a very small Indian contribution of 2%. If we were to increase that number significantly, we cannot do it with Isro alone,” he said. Now, a

clutch of startups such as Agnikul Cosmos, Skyroot, Pixxel, Bellatrix, Astrogate Labs, GalaxyEye, and others are in the fray, launching satellites, rockets, and 3D-printing small rocket engines. The budding space tech startup community has already identified niche areas, with a clear sense of market size and global opportunity. For example, Pixxel says its demo satellites are already paying off for the front-loaded investments that went into making them. Agri-tech companies pay Pixxel for data on pest infestation, crop damage, and so on, while oil companies want their assets (pipelines and other infrastructure) monitored. Mining companies want to keep track of the damage to environment around their mines.

“It's a data sales and data analytics software subscription company, at the end of the day,” Ahmed said, encapsulating his business model. Last month, Hyderabad-based Skyroot launched the first-ever privately built rocket from Isro's Sriharikota launch centre. While Skyroot's goals may seem lofty – ‘open science for all’- its operations and near-term plans are firmly rooted in business reality. There is tremendous demand for dedicated launch service providers globally. “Currently, it costs about \$30,000 to play one kilogram payload in space on a dedicated small launcher. There is immense demand and a handful of reliable rocket providers. That is the scope of growth in this market,” Chandana told ET. Skyroot will launch its first commercial rocket, carrying satellites of paying customers, around October next year. Dubbed Vikram I, the rocket will be the four-year-old startup's first major money earner, riding on the success of the recently launched test vehicle Vikram S. Calculations based on demand suggest that Skyroot can earn \$8-10 million per launch from its commercial rocket launches, which has already drawn several venture capitalists to make equity deals with it. Skyroot has already raised \$68 million across four rounds. Clones, we are not!

The space tech community in India, at least for now, is not a clone army. Startups are shooting in different directions so that they do not target the same market segment. For example, Agnikul Cosmos and Skyroot build rockets but the segments in which they operate are adjacencies at best; Skyroot's payload estimate for Vikram III could be as high as 800 kg while Agnikul has targeted lighter payloads. Besides, Agnikul's use of semi-cryogenic fuels differs from Skyroot's commitment to solid and cryogenic fuel systems. Cryogenic systems involve the use of liquid fuel at very low temperatures – usually, liquid hydrogen as fuel and liquid oxygen as the oxidiser. Agnikul recently unveiled its own launchpad inside Sriharikota. Technologically, it has slowly perfected its systems to 3D print a rocket. The Chennai-based startup recently acquired its own 3D printer so that it could keep rocket designs in-house. Through IN-SPACE, Isro has made available the Flight Termination System [mechanism to explode the rocket to smithereens if it veers off course] to Agnikul, meaning the startup's space systems are getting closer to a full-fledged launch service, from design to orbital placement.

Bengaluru-based Bellatrix, on the other hand, focuses on in-space propulsion, dealing with the transport of satellites in space, while Pixxel is all about building LEO satellites carrying hyperspectral cameras. Hyderabad-based Dhruva Space, besides launching nanosatellites, also offers remote ground stations to help missions track space assets, while the five-year-old Bengaluru-based Astrogate develops optical ground networks for satellite communications. Over the last five years, the space tech startup community has relied heavily on the expertise offered by India's premier institutions, including IIT-Madras and others. While some like Skyroot are founded by Isro scientists themselves, many have distinguished scientists on board as advisors. Professor Satyanarayanan R Chakravarthy, co-founder-advisor at Agnikul Cosmos, says it is a fact that Musk has been a strong inspiration for the current crop of space tech entrepreneurs.

“The first inspiration for these startups has been [SpaceX founder] Musk, in terms of satellites and launch vehicles, and so on. The second set is the business opportunity.”

Of late, earth observation satellites have been making a strong business case for themselves. With high-quality imaging being made possible through smaller cameras, LEO satellites – like the crop that Pixxel and others launch – have been witnessing a sharp demand. A large satellite can now be broken into multiple smaller ones and get better revisit rates (time between observations of the same point on the planet by a satellite.) Deep learning algorithms that execute feature recognition in applications such as driverless vehicles can be overlaid on the data that satellites beam down, bringing rich analytics and decisioning capabilities for any company that seeks to work the data or images. The strong business case for light earth observation satellites has, in turn, driven the demand for rockets, and other segments in space tech. “The government foresaw all this and decided to get Isro to help startups grow, and that’s the reason they started IN-SPACe,” said Chakravarthy.

As startups accelerate on a path to more satellite launches and rocket engines, the venture capital ecosystem has made a beeline. Private equity firms including foreign ones such as Seraphim have invested in Indian space tech firms. Singapore’s GIC led a \$51 million Series B round in Skyroot in September, likely the largest funding round by a space tech startup in India. Invariably, space-tech entrepreneurs have pushed for higher foreign capital infusion limits into the sector, although with guidelines to ensure startups do not receive funds from dubious foreign-domiciled entities. The Department of Space is currently working on a Foreign Direct Investment (FDI) policy for the space tech sector to lay out the rules on foreign capital limits, said an entrepreneur aware of the deliberations at the government level. The launch services market, particularly, is set to get ultra-competitive going forward as startups look to outsmart each other on the orbit placement costs. Entrepreneurs said the hectic pace of launches and announcements in the Indian space tech ecosystem underscore the startup spirit, which encapsulates the hustle and pace of execution prevalent now. “Startups are just being startups. This is how things get done. I’m glad that space tech has been able to realise this,” said Srinath Ravichandran, CEO of AgniKul Cosmos.

<https://economictimes.indiatimes.com/tech/technology/rocketing-to-space-isros-decision-to-open-up-its-infrastructure-has-given-wings-to-startups/articleshow/95962306.cms>



Mon. 05 Dec 2022

Three Chinese Astronauts Return Safely after 6 Months

China's spaceship, the Shenzhou-14, carrying three astronauts who lived in its orbiting space station for six months touched down at the Dongfeng landing site in north Inner Mongolia Autonomous Region safely on Sunday, official media here reported. Minutes after the capsule landed, grounded crews pulled out the three astronauts — Chen Dong, Liu Yang and Cai Xuzhe — one after another from the capsule in a nationally televised operation. The three astronauts

who were in good physical condition briefly spoke to the state-run television reporters before they were escorted to the headquarters for the health checks. Earlier, the Shenzhou-14 carrying the three detached from the space station. The three astronauts have lived and worked in the space station complex for 183 days. They were replaced by another three astronauts flown to the under-construction space station by the Shenzhou-15 spaceship on November 29.

The astronauts had completed various work, such as completing the in-orbit rotation with the Shenzhou-15 crew, setting the status of the space station complex, sorting and downloading experiment data, and clearing and transferring supplies kept in orbit, with support from sci-tech staff on the ground, the China Manned Space Agency (CMSA) said. The three Shenzhou-14 astronauts were sent to the space station on June 5. They have completed multiple tasks over the past few months, including overseeing five rendezvous-and-dockings, performing three extravehicular activities, giving one live science lecture, and conducting a number of sci-tech experiments, state-run Xinhua news agency reported. China plans to complete the Space station by the end of this year, amid intensifying competition with the United States. The Shenzhou-15 spaceship carried three astronauts — Fei Junlong, Deng Qingming, and Zhang Lu.

During their six-month mission, the Shenzhou-15 crew will carry out tests related to long-term residence in China's space station at its three-module configuration, Ji Qiming, assistant to the director of the CMSA, said.

This will be the last flight mission in the construction phase of China's Space Station, official media reported. The launch was carried out with a Long March-2F carrier rocket. Once ready, China will be the only country to own a space station. The International Space Station (ISS) of Russia is a collaborative project of several countries. China Space Station (CSS) is also expected to be a competitor to the ISS built by Russia. Observers say the CSS may become the sole space station to remain in orbit once the ISS retires in the coming years.

<https://www.dailypioneer.com/2022/world/three-chinese-astronauts-return-safely-after-6-months.html>

ThePrint

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Researchers Develop System for Improved Latent Fingerprint Recognition

Washington [US], December 3 (ANI): Recently, a research group developed an in-sensor reservoir computing system for latent fingerprint recognition with deep ultraviolet photo-synapses and a memristor array. The findings of the study were published in Nature Communications. The research group was led by Prof. LONG Shibing from the University of Science and Technology of China (USTC) of the Chinese Academy of Sciences, collaborating with Prof. LIU Qi from Fudan University. Deep ultraviolet (DUV) photodetectors play a pivotal role in deep space exploration, environmental monitoring, and bio-information identification. However, the conventional ex-situ DUV fingerprint recognition systems use separated sensor, memory, and processor, which significantly increases latency in decision-making and thus overall computing power. Inspired by the human visual perception system, the research group

constructed a DUV in-sensor RC system with optical synapses as the input layer of the reservoir and the memristor device array as the readout network, which can sense and process in parallel to ensure high efficiency and low power consumption.

The research team used the Ga-rich component design and developed amorphous GaOx (a-GaOx) photo-synapses with enhanced persistent photoconductivity (PPC) effects. A non-linear mapping relationship for the DUV in-sensor RC system was constructed by inputting 4-bit equivalent light pulses for simulation so that the image pixel sequence information could be sampled for feature values. Ultimately, the training of the reservoir outputs was achieved through the stable polymorphic modulation properties of the memristor device array, enabling small-scale DUV fingerprint recognition. The excellent recognition accuracy of DUV fingerprint images when using a dual-feature strategy and this hardware system is almost identical to the simulated results. The system achieves 100 per cent recognition accuracy after 100 training epochs and maintains 90 per cent accuracy even in the presence of 15 per cent background noise, in line with the anti-noise characteristics of DUV light.

This fully-hardware DUV in-sensor RC system provides a good reference prototype for efficient recognition and secure applications of latent fingerprints. It is also a critical reference for developing intelligent optoelectronic devices in the DUV waveband. “This prototype system ... will provide more insight into emerging in-sensor reservoir computing. Overall, the topic of this work is truly interesting.” said one referee for Nature Communications.

<https://theprint.in/science/researchers-develop-system-for-improved-latent-fingerprint-recognition/1247621/>

THE TIMES OF INDIA

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China-Based Hackers at Play in AIIMS-Delhi

The investigation into the incident of hacking of computers at AIIMS has pointed towards the role of China-based hackers, sources said on Friday and confirmed the initial suspicion of intelligence agencies. The services are still impacted at AIIMS and continue to be in manual mode. Cyber experts TOI spoke with said that two Chinese ransomware groups — ‘Emperor Dragonfly’ and ‘Bronze Starlight (DEV-0401)’ had been targeting pharma institutions across the globe of late, but it was still being confirmed if strains associated with these groups were behind the attack. Another suspicion is on a group named Life, which is being considered a new variant of a ransomware called WannaRen.

The probe also suggests that the hackers may have started putting the data for sale on the dark web as their demands were not met, the source added. This has raised fears of confidential data of lakhs of patients, including politicians, having been leaked. Officials are, however, denying that any data has been compromised. Investigation has confirmed that five main servers were targeted by the Chinese hackers who subsequently put it on the dark web. Delhi Police’s cyber cell said in a statement on Friday that the mirror images of the impacted servers had been sent to the lab for forensic analysis. The AIIMS administration and other agencies are in process of restoring and reviving the services, officials said.

Regarding reports of a ransom of Rs 200 crore in crypto currency having been demanded by the hackers, Delhi Police had given a cryptic statement that no ransom demand had been brought to their notice by AIIMS. Delhi Police, however, has filed an FIR of extortion and cyber terrorism on the complaint of AIIMS security officer. The best of minds from Indian Computer Emergency Response Team, Centre for Development of Advanced Computing and National Informatics Centre, apart from two intelligence agencies, have been trying to salvage the damage caused by the ransomware. Sources said that the NIC e-hospital database and application servers for e-hospital have been restored to a large extent. On Monday, around 1,200 systems and 20 servers had been sanitised. The operation to restore services may continue till next week, said an official.

<https://timesofindia.indiatimes.com/city/delhi/china-based-hackers-at-play-in-aiims/articleshow/95947240.cms>

