

August
2022

समाचार पत्रों से चयित अंश Newspapers Clippings

A Daily service to keep DRDO Fraternity abreast with DRDO
Technologies, Defence Technologies, Defence Policies,
International Relations and Science & Technology

खंड : 47 अंक: 155 17 अगस्त 2022

Vol.: 47 Issue: 155 17 August 2022



रक्षा विज्ञान पुस्तकालय

Defence Science Library

रक्षा वैज्ञानिक सूचना एवं प्रलेखन केंद्र

Defence Scientific Information & Documentation Centre

मेटकॉफ हाउस, दिल्ली - 110 054

Metcalfe House, Delhi - 110 054

CONTENTS

S. No.	TITLE	Page No.
	DRDO News	1-3
	DRDO Technology News	1-3
1.	Defence Minister Hands Over Infantry Protected Mobility Vehicle to Army, Will Facilitate Faster Troop Transport	<i>Swarajya</i> 1
2.	ब्रह्मोस-2 Missile से उड़ेगी दुश्मनों की नौद, हाइपरसोनिक वेरिएंट में इस्तेमाल होगी Zircon मिसाइल की टेक्नोलॉजी	<i>ABP News</i> 1
	Defence News	3-32
	Defence Strategic: National/International	3-32
3.	IAF MTB Expedition from Khardung La to Delhi to Commemorate 75 Yrs of India's Independence	<i>Press Information Bureau</i> 3
4.	रक्षा मंत्री ने नई दिल्ली में भारतीय सेना को स्वदेशी में विकसित उपकरण एवं प्रणालियां सौंपीं	<i>Press Information Bureau</i> 4
5.	Raksha Mantri Hands Over Indigenously-Developed Equipment & Systems to Indian Army in New Delhi	<i>Press Information Bureau</i> 9
6.	Rajnath Singh Hands Over Multiple Indigenous Weapons to Indian Army	<i>Business Standard</i> 12
7.	These Indigenous Weapons Give Indian Army Edge in Future Wars	<i>Hindustan Times</i> 13
8.	सेना को मिली फौलादी तकनीक	<i>Navbharat Times</i> 14
9.	What is Nipun, F-INSAS and LCA? New Weapons and Weapon System for Indian Army	<i>Josh</i> 15
10.	Defence Mechanism	<i>The Economic Times</i> 17
11.	रक्षा क्षेत्र की बदलती तस्वीर	<i>Jansatta</i> 18
12.	Indian Army Issues RFP for Procurement of Quantum Key Distribution technology	<i>The Indian Express</i> 20
13.	UP Clears Plan to Increase Limit of Cap Subsidy Up to Rs 500 Cr for Def Investors	<i>The Economic Times</i> 21
14.	Indigenous Technology and Out of the Box Thinking has been the Story Behind India's IAC	<i>The Times of India</i> 23
15.	LM2500 Engines Powers India's First Indigenous Aircraft Carrier INS Vikrant	<i>Indian Defence News</i> 24
16.	Geopolitical Fault-Line in East Asian Maritime Domain could be Grave: Rajnath Singh	<i>The Economic Times</i> 25
17.	बड़ा एटम बम गिराने वाला रूसी विमान खरीदेगा भारती	<i>Punjab Kesari</i> 27
18.	PH to Get Missile System Next Year	<i>The Manila Times</i> 27
19.	India's Security Establishment Keeping Eye on Visit of Chinese Satellite Ship to Sri Lanka Port	<i>The Economic Times</i> 28
20.	Chinese Spy Ship's Docking in Sri Lankan Port Spells Long-Term Concerns for India	<i>The Times of India</i> 29
21.	China Not Allowed to Use Hambantota Port for Military Purposes: Sri Lankan President Wickremesinghe	<i>The Print</i> 30
22.	Russian Defence Ministry Signs Sarmat Intercontinental Ballistic Missiles Contract	<i>EuroWeekly News</i> 31
	Science & Technology	32-34
23.	How Omicron BA.5 Became A Master of Disguise – What It Means for the Current Covid Surge	<i>SciTechDaily</i> 32

Tue, 16 Aug 2022

Defence Minister Hands Over Infantry Protected Mobility Vehicle to Army, Will Facilitate Faster Troop Transport

Defence Minister Rajnath Singh on Tuesday (16 August) handed over the indigenously developed Infantry Protected Mobility Vehicle (IPMV) to the Indian Army. The IPMV has been jointly designed and developed by the Defence Research Development Organisation (DRDO) and Tata Advanced Systems Limited (TASL). IPMV will provide mobility and more protection to a large number of infantry soldiers posted at the Northern Borders, according to a Defence Ministry release. The vehicles have been tried and tested in the mountainous terrain of the Ladakh region and have been inducted to boost the capabilities of the troops deployed there.

The IPMVs also include TASL's in-house designed and developed remote-controlled weapon station with thermal sights and external add-on armour protection panels developed by the Defence Metallurgical Research Laboratory of the DRDO. The IPMVs have been developed and manufactured at the TASL's Pune facility. They have been built on the strategic 8x8 Wheeled Armoured Platform (WhAP), indigenously designed and developed by the TASL along with the Vehicles Research & Development Establishment (VRDE), a unit of the DRDO.

<https://swarajyamag.com/defence/defence-minister-hands-over-infantry-protected-mobility-vehicle-to-army-will-facilitate-faster-troop-transport>



मंगलवार, 16 अगस्त 2022

ब्रहमोस-2 Missile से उड़ेगी दुश्मनों की नींद, हाइपरसोनिक वेरिएंट में इस्तेमाल होगी Zircon मिसाइल की टेक्नोलॉजी

भारत के दुश्मनों के लिए बुरी खबर है. भारत और रूस ब्रहमोस-2 (BrahMos-2) के नए वेरिएंट यानी ब्रहमोस-2 सुपरसोनिक क्रूज मिसाइल (BrahMos 2 Hypersonic Missile) के निर्माण में

तेजी से जुट गए हैं. ये मिसाइल काफी ताकतवर होगी और रूस के जिरकॉन मिसाइल (Zircon Missile) की तर्ज पर ये दुश्मनों की नौद उड़ा देगी. जानकारी के मुताबिक इस मिसाइल में रूस के सबसे घातक जिरकॉन मिसाइल की तकनीक (Zircon Missile Technology) का इस्तेमाल किया जाएगा. ब्रह्मोस (BrahMos) दुनिया की ऐसी मिसाइल है, जिसे काफी खतरनाक माना जाता है. इस घातक मिसाइल को जमीन, हवा, पानी और पनडुब्बी से भी लॉन्च किया जा सकता है.

ब्रह्मोस-2 में इस्तेमाल होगी जिरकॉन की तकनीक!

भारतीय सीमा पर चीन और पाकिस्तान की ओर से अक्सर तनाव देखा जाता रहा है. ऐसे में भारत भी अपने चालबाज पड़ोसियों को सबक सिखाने के लिए अपनी सेना को मजबूत कर रहा है. भारत अपने हथियारों को आधुनिक करने के साथ स्वदेशी तकनीक के इस्तेमाल पर जोर दे रहा है. इसी कड़ी में ब्रह्मोस क्रूज मिसाइल का एडवांस्ड वर्जन बनाने का काम तेजी से जारी है. ब्रह्मोस-2 हाइपरसोनिक वर्जन में रूस के जिरकॉन हाइपरसोनिक मिसाइल टेक्नोलॉजी का उपयोग किया जाएगा.

ब्रह्मोस-2 की ताकत क्या है?

हाइपरसोनिक मिसाइल को ट्रैक करना काफी मुश्किल काम है. ठीक इसी तर्ज पर ब्रह्मोस-2 मिसाइल को भी विकसित किया जा रहा है. ब्रह्मोस-2 सुपरसोनिक मिसाइल को स्पीड और इसके ग्लाइड करने की बेहतरीन क्षमता के साथ बनाया जा रहा है. इस एडवांस्ड वर्जन मिसाइल में स्क्रैमजेट इंजन लगाया जाएगा, जिससे इसकी ताकत काफी बढ़ जाएगी. इस मिसाइल की रेंज 600 किलोमीटर तक होगी, जिसे बढ़ाकर 1000 किलोमीटर तक किया जा सकता है. ये मिसाइल एंटी शिप और सतह से सतह पर मार करने वाली हाइपरसोनिक क्रूज मिसाइल होगी. इसे फाइटर जेट, युद्धपोत, पनडुब्बी से दागा जा सकता है यानी ये जमीन, हवा या फिर पानी में पनडुब्बी से भी लॉन्च किया जा सकेगा.

ब्रह्मोस-2 का काम तेजी से जारी

ब्रह्मोस मिसाइल को भारत और रूस ने संयुक्त तौर से निर्माण किया है. ये मिसाइल रेंज के मामले में कई अलग-अलग वेरिएंट में मौजूद है. इसकी रेंज 300 से 700 किमी तक है. हाइपरसोनिक वेरिएंट को भारत और रूस मिलकर विकसित कर रहे हैं. इस एडवांस्ड वर्जन को रूस के रिसर्च एंड प्रोडक्शन एसोसिएशन ऑफ मशीन बिल्डिंग और भारत के डीआरडीओ (DRDO) साथ मिलकर विकसित करने में जुटे हैं. रूसी समाचार एजेंसी तास के हवाले ब्रह्मोस एयरोस्पेस के सीईओ अतुल राणे ने हाल ही में कहा था कि हाइपरसोनिक वेरिएंट ब्रह्मोस-2 का

काम अडवांस स्टेज में है. जिरकाँन टेक्नोलॉजी के इस्तेमाल को लेकर सवाल पर उन्होंने कहा था कि ऐसा संभव है. इसके बनने में अभी करीब 5 साल का वक्त लग सकता है.

जिरकाँन मिसाइल की ताकत?

जिरकाँन मिसाइल (Zircon Missile) ध्वनि की रफ्तार से करीब 7 गुना तेज है. ये अमेरिका की ओर से बनाए डिफेंस सिस्टम (Defence System) को भी चकमा देने में सक्षम है और इसी तर्ज पर भारत की ब्रह्मोस-2 (BrahMos-2) को विकसीत करने की योजना है. जिरकाँन मिसाइल को इंटरसेप्ट करना काफी मुश्किल है. इसकी स्पीड 6100 किमी से लेकर 11000 किमी तक है. ये मिसाइल 1000 किमी दूर स्थित टारगेट को तबाह करने में सक्षम है. यह एक एंटी शिप क्रूज मिसाइल (Anti Ship Cruise Missile) है, जिसका पिछले साल परमाणु सबमरीन से परीक्षण किया गया था. रूस के राष्ट्रपति व्लादिमीर पुतिन ने पिछले साल दिसंबर में बताया था कि जिरकाँन हमारी सबसे नई किस्म की मिसाइल है, जो समुद्र से समुद्र और जमीन पर हमला करने में पूरी तरह से सक्षम है.

<https://www.abplive.com/news/india/defence-news-brahmos-2-missile-enemies-pakistan-china-afraid-of-technology-of-zircon-missile-2193005>

Defence News

Defence Strategic : National/International



Press Information Bureau
Government of India

Ministry of Defence

Tue, 16 Aug 2022 7:45PM

IAF MTB Expedition from Khardung La to Delhi to Commemorate 75 Yrs of India's Independence

Commemorating India's 75 years of Independence, Indian Air Force conducted a landmark Mountain Terrain Biking expedition from Khardung La (Leh) to Delhi from 31 July 2022 to 15 August 2022 with a team of 20 Air Warriors and 12 support staff. The expedition was flagged off by Air Commodore PK Srivastava, Air Officer Commanding, Air Force Station leh, from Khardung La on 31 July 2022. The cyclists faced the daunting task of covering 1100 kms in 16 days, culminating at National War Memorial, New Delhi on 15 August 2022 to commemorate

the 75th year of Independence, 'Azadi ka Amrit Mahotsav' by paying tribute to our brave soldiers who made the supreme sacrifice during various wars after independence.

The broader aim of the expedition was to bolster the energy of the youth towards nationalism as the Air Warriors interacted with school children at various stages en-route. They also acted as a beacon to channelise the zeal and enthusiasm of the future leaders of the nation. Spearheading the team from Indian Air Force was Group Captain AP Menezes, who is an avid cyclist, athlete and a national footballer. The expedition has pedalled its way through the lofty peaks of Ladakh traversing through the high passes Tanglang La and Baralacha La before entering Himachal Pradesh and the plains of Punjab towards NCR, Delhi. The team was flagged in by Air Officer in Charge Administration, Air Marshal K Anantharaman VSM, on 16 Aug 22 at the National War Memorial.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1852366>



पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

मंगलवार, 16 अगस्त 2022 3:45 अपराह्न

रक्षा मंत्री ने नई दिल्ली में भारतीय सेना को स्वदेशी में विकसित उपकरण एवं प्रणालियां सौंपीं

अत्याधुनिक उपकरणों में फ्यूचर इन्फैंट्री सोल्जर, नई पीढ़ी की एंटी-पर्सनल माइन, टैंकों के लिए अपग्रेडेड साइट सिस्टम, उच्च गतिशीलता इन्फैंट्री प्रोटेक्टेड वेहिकल्स और असॉल्ट बोट्स शामिल

प्रणालियों से सेना की अभियानगत तैयारियों में वृद्धि होगी: श्री राजनाथ सिंह
सशस्त्र बलों को भविष्य की चुनौतियों से निपटने में मदद करने के लिए नवीनतम
प्रौद्योगिकी पर आधारित बुनियादी ढांचे के विकास का आह्वान किया

रक्षा मंत्री श्री राजनाथ सिंह ने दिनांक 16 अगस्त, 2022 को नई दिल्ली में स्वदेश में विकसित उपकरण एवं सिस्टम भारतीय सेना को सौंपे। इनमें फ्यूचर इन्फैंट्री सोल्जर एज ए सिस्टम (एफ-आईएनएसएस), नई पीढ़ी की एंटी-पर्सनल माइन 'निपुण', उन्नत क्षमताओं के साथ रुग्ड एवं स्वचालित संचार प्रणाली, टैंकों के लिए अपग्रेडेड साइट सिस्टम एवं उन्नत थर्मल इमेजर शामिल हैं। अत्याधुनिक उच्च गतिशीलता वाले इन्फैंट्री प्रोटेक्टेड व्हीकल और असॉल्ट बोट वर्चुअल माध्यम से रक्षा मंत्री द्वारा

सौंपे गए, जिससे सीमा पर तैनात सैनिक किसी भी चुनौती का उचित तरीके से जवाब देने में सक्षम बन पाएं।

भारतीय सेना द्वारा संयुक्त रूप से रक्षा सार्वजनिक क्षेत्र के उपक्रमों, रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) और उद्योग जगत के सहयोग से, सशस्त्र बलों के आधुनिकीकरण के लिए प्रधानमंत्री श्री नरेन्द्र मोदी के दृष्टिकोण के अनुरूप 'आत्मनिर्भर भारत अभियान' के अंतर्गत इन उपकरण/प्रणालियों को विकसित किया गया है।

श्री राजनाथ सिंह ने विश्वास व्यक्त किया कि यह उपकरण एवं प्रणालियां भारतीय सेना की अभियानगत तैयारियों को बढ़ाएंगी और उनकी दक्षता में वृद्धि करेंगी। उन्होंने कहा कि यह निजी क्षेत्र और अन्य संस्थानों के साथ साझेदारी में देश की बढ़ते आत्मनिर्भरता कौशल का एक शानदार उदाहरण है। रक्षा मंत्री ने जोर देकर कहा कि सशस्त्र बलों की ढांचागत जरूरतें बदलते समय के साथ लगातार बढ़ रही हैं। उन्होंने सशस्त्र बलों को भविष्य की चुनौतियों से निपटने के लिए तैयार रहने में मदद करने के लिए नवीनतम तकनीक पर आधारित ढांचागत विकास का आह्वान किया। उन्होंने सशस्त्र बलों से उत्कृष्टता के लिए प्रयास करने और राष्ट्र निर्माण के लिए खुद को समर्पित करने का आग्रह किया। भारतीय सेना को सौंपे गए उपकरणों और प्रणालियों का विवरण इस प्रकार है:

बतौर एक सिस्टम- फ्यूचर इन्फैंट्री सोलजर

फ्यूचर इन्फैंट्री सोलजर को तीन प्राइमरी सब सिस्टम से लैस किया जा रहा है। पहला सब सिस्टम दिन और रात के होलोग्राफिक और रिफ्लेक्स साइट के साथ आधुनिक अत्याधुनिक असॉल्ट राइफल है। सैन्य अभियानों की स्थितियों में 360-डिग्री दृश्यता और सटीकता सुनिश्चित करने के लिए हथियार और हेलमेट पर भी साइट्स लगाई जाती हैं। प्राथमिक हथियार प्रणाली के अलावा सैनिकों को मल्टी-मोड हैंड ग्रेनेड भी दिया जाएगा, जिसे मल्टीपरपज़ नाइफ़ के साथ स्वदेशी रूप से खरीदा गया है। दूसरी उप प्रणाली सुरक्षा प्रणाली है। यह विशेष रूप से डिज़ाइन किए गए हेलमेट और बुलेट प्रूफ़ जैकेट के माध्यम से सुरक्षा प्रदान करती है। तीसरी उप प्रणाली में संचार और निगरानी प्रणाली शामिल है। यह एफ-इंसास प्रणाली रीयल टाइम डेटा कनेक्टिविटी को शामिल करके और अपग्रेड करने में सक्षम है।

एन्टी-पर्सनेल माइन 'निपुण'

भारतीय सेना लंबे समय से विंटेज एनएमएम 14 माइंस का इस्तेमाल कर रही है। आयुध अनुसंधान एवं विकास प्रतिष्ठान, पुणे और भारतीय उद्योग के प्रयासों से 'निपुण' नामक एक नई भारतीय माइन विकसित की गई है। यह सीमाओं पर सैनिकों को प्रदान की जाने वाली सुरक्षा को बढ़ाएगी। यह माइन मौजूदा एन्टी-पर्सनेल माइन की तुलना में अधिक शक्तिशाली एवं प्रभावी है।

हैंड हेल्ड थर्मल इमेजर (अनकूल्ड)

यह उपकरण निगरानी करने एवं पता लगाने के लिए है। यह दिन और रात दोनों में तथा प्रतिकूल मौसम की स्थिति में सैनिकों को दुश्मन की गतिविधियों का पता लगाने के लिए दृश्यता प्रदान करता है।

टी-90 टैंक के लिए कमांडर थर्मल इमेजिंग साइट

यह उपकरण बख्तरबंद कॉलम के कमांडरों को बढ़ी हुई दृश्यता और रेंज प्रदान करता है। इससे पहले टी - 90 टैंक में इमेज इंटेंसिफिकेशन सिस्टम था जिसकी अपनी सीमाएं एवं बाधाएं थीं। इंडिया ऑप्टेल लिमिटेड द्वारा उत्पादित थर्मल इमेजिंग साइट के उपयोग से उन बाधाओं और सीमाओं को दूर किया गया है।

रिकॉर्डिंग सुविधा के साथ डाउनलिक उपकरण

यह डाउनलिक उपकरण हेलीकॉप्टरों को सीमाओं और सैन्य अभियान वाले क्षेत्रों की निरंतर टोही और निगरानी करने में मदद करता है। मिशन पर रहते हुए देखे गए टोही डेटा को सिस्टम में दर्ज किया जाता है और इसे तभी एक्सेस किया जा सकता है जब हेलीकॉप्टर बेस पर वापस आ जाए। मेसर्स एक्जिकॉम प्राइवेट लिमिटेड द्वारा स्वदेशी रूप से उत्पादित उपकरण उन्नत हल्के हेलीकॉप्टर पर फिट किया गया है।

सेमी रग्डाइज्ड ऑटोमेटिक एक्सचेंज सिस्टम एमके-II

भारतीय सेना के पास एक्सचेंज थे जो सक्रिय रूप से तैनात युनिट्स को लाइन कम्युनिकेशंस प्रदान करते थे। हालाँकि ग्राहकों की संख्या और संप्रेषित किए जा सकने वाले डेटा की मात्रा के संदर्भ में सीमाएं थीं। साथ ही उपकरण नवीनतम इंटरनेट प्रोटोकॉल तकनीक के साथ काम नहीं कर सके। भारत इलेक्ट्रॉनिक्स लिमिटेड, कोटद्वार द्वारा एक नई प्रणाली विकसित की गई है जो पुरानी प्रणाली की सभी कमियों को दूर करती है।

उन्नत रेडियो रिले (फ्रीक्वेंसी होपिंग)

चुनौतीपूर्ण अग्रिम क्षेत्रों में जहां कोई लाइन या संचार के अन्य तरीके उपलब्ध नहीं हैं, भारतीय सेना को अपनी संचार प्रणाली का विस्तार करना होगा। इस रेडियो रिले प्रणाली के साथ आगे के सैनिक अपने संचार उपकरण और रेडियो सेट को अधिक लंबी दूरी पर और अब तक की तुलना में अधिक गहराई में संचालित करने की स्थिति में हैं। यह फ्रीक्वेंसी होपिंग तकनीक और बहुत उच्च क्षमता वाली एक उन्नत प्रणाली है। इसे भारत इलेक्ट्रॉनिक्स लिमिटेड, बेंगलुरु द्वारा विकसित किया गया है।

सौर फोटोवोल्टिक ऊर्जा परियोजना

देश के सबसे चुनौतीपूर्ण इलाके और सैन्य क्षेत्रों में से एक सियाचिन ग्लेशियर है। विभिन्न उपकरणों को संचालित करने के लिए क्षेत्र में बिजली की पूरी आवश्यकता केवल कैप्टिव जनरेटर आपूर्ति के माध्यम से

पूरी की जाती थी। समग्र ऊर्जा आवश्यकताओं में सुधार और जीवाश्म ईंधन पर निर्भरता को कम करने के लिए एक सौर फोटो-वोल्टाइक संयंत्र स्थापित किया गया है। परतापुर का यह संयंत्र वर्चुअल तरीके से रक्षा मंत्री द्वारा राष्ट्र को समर्पित किया गया था।

लैंडिंग क्राफ्ट असॉल्ट (एलसीए)

पेंगोंग त्सो झील में नावें हैं हालांकि उनकी क्षमताएँ सीमित हैं। एलसीए एक से अधिक भूमिकाएं निभाने में सक्षम है और इसने लॉच, गति और क्षमता से संबंधित सीमाओं को पार कर लिया है। इसने पूर्वी लद्दाख में पानी की बाधाओं को पार करने की क्षमता को बढ़ाया है। एलसीए को मैसर्स एक्वेरियस शिप यार्ड लिमिटेड, गोवा द्वारा स्वदेशी रूप से विकसित किया गया है।

मिनी रिमोटली पायलटेड एरियल सिस्टम (आरपीएएस)

आरपीएएस सामरिक स्तर पर भारतीय वायु सेना के विमान और हेरॉन मानवरहित हवाई वाहनों द्वारा सामना की जाने वाली ऑपरेशनल सीमाओं को हटा देता है। यह पैदल सेना बटालियन और मशीनीकृत इकाइयों के स्तर पर निगरानी, पहचान और टोही की प्रतिबंधित क्षमता को हटाकर भारतीय सेना को सशक्त बनाता है।

इन्फैंट्री प्रोटेक्टेड मोबिलिटी व्हीकल (आईपीएमवी)

आईपीएमवी उत्तरी सीमाओं पर तैनात बड़ी संख्या में इन्फैंट्री सैनिकों को गतिशीलता और अधिक सुरक्षा प्रदान करता है। इसे मेसर्स टाटा एडवांस सिस्टम्स लिमिटेड द्वारा बनाया गया है।

क्विक रिएक्शन फाइटिंग व्हीकल (मीडियम)

पूर्वी लद्दाख में हमारे सैनिकों की गतिशीलता बढ़ाने के लिए इन्फैंट्री मोबिलिटी प्रोटेक्टेड व्हीकल के साथ दूसरा वाहन क्विक रिएक्शन फाइटिंग व्हीकल (मीडियम) है। यह सैनिकों की त्वरित तैनाती की सुविधा प्रदान करता है और बहुत तेज प्रतिक्रिया को कामयाब बनाएगा। वाहन टाटा एडवांस सिस्टम्स लिमिटेड से खरीदे गए हैं। ये उच्च गतिशीलता, उन्नत मारक क्षमता और सुरक्षा वाले वाहन हैं। यह हमारी उत्तरी सीमाओं में नैतिक प्रभुत्व निर्मित करने में मदद करेगा।

इस अवसर पर रक्षा मंत्री ने आवास स्केल (एसओए) 2022 का भी अनावरण किया, जो रक्षा सेवाओं के लिए सैन्य अभियानगत, कार्यात्मक, प्रशिक्षण, प्रशासनिक, रहने और मनोरंजन के लिए निर्माण सुविधाओं के लिए प्राधिकार प्रदान करता है। एसओए 2022 स्वच्छ भारत, सुगम भारत, डिजिटल इंडिया, हरित भवन, सतत विकास, नवीकरणीय ऊर्जा, योग और फिट भारत के कार्बन फुटप्रिंट को बढ़ावा देने आदि जैसी सरकारी नीतियों और दृष्टि के अनुरूप है। श्री राजनाथ सिंह ने जोर देकर कहा कि एसओए 2022 के कार्यान्वयन से समकालीन आवश्यकताओं के अनुरूप सुविधाओं/बुनियादी ढांचे और विशिष्टताओं में जबरदस्त सुधार होगा और नागरिकों सहित रक्षा कर्मियों के लिए काम करने तथा रहने

की स्थिति में और सुधार होगा। उन्होंने एसओए 2022 को एमईएस की कड़ी मेहनत और समर्पण के प्रमाण के रूप में पेश किया।

श्री राजनाथ सिंह ने पारदर्शिता को बढ़ावा देने, दक्षता का निर्माण करने और सैन्य अभियंता सेवाओं (एमईएस) की गुप्त उत्पादकता को सामने लाने के लिए ई-गवर्नेंस अनुप्रयोगों की एक श्रृंखला भी शुरू की। इनमें बजट प्रबंधन, उत्पाद अनुमोदन, अनुबंध, कार्यों की जांच और उनकी स्थिति तथा एक इलेक्ट्रॉनिक कैंस बुक शामिल है। उन्होंने कहा कि "ईआरपी सॉफ्टवेयर विभिन्न उद्योगों के विकास और संस्थानों की दक्षता बढ़ाने में महत्वपूर्ण भूमिका निभा रहा है। आज लॉन्च किए गए पोर्टल और एप्लिकेशन एमईएस की कार्यकुशलता को बढ़ाएंगे और समय की बचत करेंगे। यह प्रभावी ई-गवर्नेंस की दिशा में एक महत्वपूर्ण प्रयास है।"

'डिजिटल इंडिया' मिशन को आगे बढ़ाते हुए रक्षा मंत्री ने 198 वीडियो मॉड्यूल लॉन्च किए जो नवीनतम निर्माण तकनीकों, टिकाऊ प्रौद्योगिकियों, बुनियादी ढांचे के विकास में नए रुझानों आदि के प्रासंगिक विषयों पर व्यापक ज्ञान के आधार को छूते हैं। भास्कराचार्य राष्ट्रीय अंतरिक्ष अनुसंधान एवं भू-सूचना विज्ञान संस्थान (बीआईएसएजी-एन) के तत्वावधान में 'वंदे गुजरात' के शैक्षिक टेलीविजन चैनल पर इन निदर्शी वीडियो का प्रसारण किया जाएगा। श्री राजनाथ सिंह ने इसकी सराहना की कि इन वीडियो को इंटरनेट पर भी अपलोड किया जाएगा और व्यापक रूप से लोगों की मदद की जाएगी।

श्री राजनाथ सिंह ने रक्षा मंत्रालय के एक महत्वपूर्ण और जिम्मेदार संगठन के रूप में एमईएस की सराहना की, जो सशस्त्र बलों की ढांचागत जरूरतों को पूरा करता है। उन्होंने एमईएस को पर्दे के पीछे वाला पात्र करार दिया जो फ्रंटलाइन योद्धाओं को एक मजबूत बैकअप प्रदान करने में मदद करता है। रक्षा राज्य मंत्री श्री अजय भट्ट, थल सेनाध्यक्ष जनरल मनोज पांडे, नौसेनाध्यक्ष एडमिरल आर. हरि कुमार, वायु सेना प्रमुख एयर चीफ मार्शल वीआर चौधरी, एयर मार्शल बीआर कृष्णा, रक्षा अनुसंधान एवं विकास विभाग के सचिव तथा डीआरडीओ के अध्यक्ष डॉ. जी. सतीश रेड्डी, इंजीनियर-इन-चीफ लेफ्टिनेंट जनरल हरपाल सिंह और रक्षा मंत्रालय के अन्य वरिष्ठ नागरिक तथा सैन्य अधिकारी उपस्थित थे।

<https://pib.gov.in/PressReleasePage.aspx?PRID=1852355>



**Press Information Bureau
Government of India**

Ministry of Defence

Tue, 16 Aug 2022 3:45PM

Raksha Mantri Hands Over Indigenously-Developed Equipment & Systems to Indian Army in New Delhi

Future Infantry Soldier, new generation anti-personnel mine, upgraded sights system for tanks, high mobility Infantry Protected Vehicles & Assault Boats among the state-of-the-art equipment

**The systems will enhance operational preparedness of the Army: Shri
Rajnath Singh**

**Calls for infrastructure development based on latest technology to help the
Armed Forces deal with future challenges**

Raksha Mantri Shri Rajnath Singh handed over indigenously-developed equipment and systems to the Indian Army in New Delhi on August 16, 2022. These include Future Infantry Soldier as a System (F-INSAS), new generation anti-personnel mine 'Nipun', rugged and automatic communication system with enhanced capabilities, upgraded sights system for tanks and advanced thermal imagers. State-of-the art high mobility Infantry Protected Vehicles and Assault Boats were virtually handed over by Raksha Mantri enabling the troops deployed along the borders to respond to any challenge in a befitting manner. The equipment/systems have been jointly developed by Indian Army in collaboration with Defence Public Sector Undertakings, Defence Research & Development Organisation (DRDO) and the Industry, in line with the Prime Minister Shri Narendra Modi's vision to modernise the Armed Forces, under the 'Aatmanirbhar Bharat Abhiyan'.

Shri Rajnath Singh exuded confidence that the equipment and systems will enhance the operational preparedness of the Indian Army and increase their efficiency. It is a shining example of the country's growing self-reliance prowess, in partnership with the private sector and other institutions, he said. The Raksha Mantri asserted that the infrastructural needs of the Armed Forces are increasing with constantly-changing times. He called for infrastructural development based on latest technology to help the Armed Forces remain prepared to deal with future challenges. He urged the Armed Forces to strive for excellence and continue dedicating themselves towards Nation Building.

The details of the equipment and systems handed over to the Indian Army are as follow:

Future Infantry Soldier as a System

Future Infantry Soldier is being equipped with three primary sub systems. The first sub system is the modern state of art assault rifle along with day and night holographic and reflex sights. The sights are mounted on the weapon and also on helmet to enable a 360-degree visibility and accuracy in operational conditions. In addition to the primary weapon system, the soldiers will also be kitted with multi-mode hand grenade which has also been procured indigenously along

with multi-purpose knife. The second sub system is protection system. This gives protection through a specially designed helmet and a bullet proof jacket. The third sub system consists of communication and surveillance system. This F-INSAS system is capable of further upgradation by incorporating real time data connectivity.

Anti-Personnel mine ‘Nipun’

For a long time, the Indian Army has been using vintage NMM 14 mines. With the efforts of Armament Research and Development Establishment, Pune and the Indian industry, a new Indian mine named ‘Nipun’ has been developed. It will enhance the protection provided to the troops on the borders. The mine is more potent and effective than the existing anti-personnel mine.

Hand Held Thermal Imager (Uncooled)

This equipment is for surveillance and detection. It gives visibility in both day and night and in adverse weather conditions to the soldiers to detect enemy movement and activities.

Commander Thermal Imaging Sight for T-90 tank

This equipment gives enhanced visibility and range to the commanders of armoured columns. Earlier, in T-90 tanks had image intensification systems which had its own limitations and constraints. The limitations have been overcome by use of thermal imaging sight produced by India Optel Limited.

Downlink Equipment with Recording Facility

This downlink equipment helps the helicopters in carrying out constant reconnaissance and surveillance of the borders and operational areas. While on missions, reconnaissance data observed is recorded in the system and can be accessed only when the helicopter returns to the base. The equipment, produced indigenously by M/s Exicom Private Limited, is fitted on the Advanced Light Helicopter.

Semi Ruggedised Automatic Exchange System Mk-II

Indian Army had exchanges that provided line communications to the operationally deployed units. However, there were limitations in terms of numbers of subscribers and quantum of data that could be communicated. Also, the equipment could not work with latest internet protocol technology. A new system has been developed by the Bharat Electronics Limited, Kotdwar, which overcomes all inadequacies of the older system.

Upgraded Radio Relay (Frequency Hopping)

In challenging forward areas, where no lines or other forms of communication are available, Indian Army has to extend its communication system. With this radio relay system, forward troops are in a position to operate their communication equipment and radio sets at much longer ranges and in greater depths than hither-to-fore. This is an advanced system with frequency hopping technology and very high capacity. It has been developed by Bharat Electronics Limited, Bengaluru.

Solar Photovoltaic Energy Project

One of the most challenging terrain and operational sectors of the country is the Siachen Glacier. The complete power requirement in the area to operate various equipment was met only through

captive generator supply. A solar photo-voltaic plant has been installed to improve the overall energy requirements and also obviate dependence on fossil fuels. This plant at Partapur was virtually dedicated to the Nation by the Raksha Mantri.

Landing Craft Assault (LCA)

There are boats operating in Pangong Tso lake, however, they have limited capabilities. The LCA is much more versatile and has overcome the limitations of launch, speed and capacity. It has enhanced the capability to operate across the water obstacles in Eastern Ladakh. LCA has been indigenously developed by M/s Aquarius Ship Yard Limited, Goa.

Mini Remotely Piloted Aerial System (RPAS)

RPAS removes the operational limitations faced by the Indian Air Force aircraft and the heron Unmanned Aerial Vehicles at tactical level. It empowers the Indian Army by removing the restricted capability for surveillance, detection and reconnaissance at the infantry battalion and mechanised units level.

Infantry Protected Mobility Vehicle (IPMV)

IPMV provides mobility and more protection to a large number of infantry soldiers posted at the Northern Borders. It has been made by M/s Tata Advance Systems Limited.

Quick Reaction Fighting Vehicle (Medium)

The second vehicle along with the Infantry Mobility Protected Vehicle for enhanced mobility of our troops in Eastern Ladakh is the Quick Reaction Fighting Vehicle (Medium). It facilitates quick deployment of troops and will enable much faster reaction. The vehicles have been procured from Tata Advanced Systems Ltd. These are tailor made vehicles with high mobility, enhanced firepower & protection. It will facilitate in creating moral ascendancy in our Northern Borders.

On the occasion, the Raksha Mantri also unveiled Scales of Accommodation (SoA) 2022, which provides authorisation for construction facilities for operational, functional, training, administrative, living and recreation for the Defence Services. The SoA 2022 is in line with the Government policies and vision like Swachh Bharat, Sugamya Bharat, Digital India, Green Buildings, Sustainable Development, Renewable Energy, Reduction of Carbon Footprint Promotion of Yoga & Fit India etc. Shri Rajnath Singh asserted that with the implementation of SoA 2022, there would be tremendous improvement in facilities/infrastructure and specifications commensurate to contemporary requirements and will further improve the working and living conditions for the defence personnel including civilians. He described SoA 2022 as a testament to the hard work and dedication of MES.

Shri Rajnath Singh also launched a series of e-Governance applications to foster transparency, build efficiency and unlock the latent productivity of Military Engineer Services (MES). These include those on budget management, product approval, contracts, scrutiny of works and their status and an electronic cash book. “ERP software is playing an important role in the development of various industries and increasing the efficiency of institutions. The portals and applications launched today will increase the work efficiency of MES and save time. It is a crucial effort towards effective e-governance,” he said.

Furthering the ‘Digital India’ mission, the Raksha Mantri launched 198 video modules which touch upon the wide knowledge base on relevant subjects of latest construction techniques,

sustainable technologies, new trends in infrastructure development etc. These illustrative videos will be telecast over educational television channel of 'Vande Gujarat' under the aegis of Bhaskaracharya National Institute of Space Research and Geo-Informatics (BISAG-N). Shri Rajnath Singh appreciated the fact that these videos will be uploaded on the internet as well and help the people at large.

Shri Rajnath Singh lauded MES as an important and responsible organisation of Ministry of Defence, which meets the infrastructural needs of the Armed Forces. He termed MES as behind the scenes characters who help provide a strong backup to the frontline warriors. Raksha Rajya Mantri Shri Ajay Bhatt, Chief of the Army Staff General Manoj Pande, Chief of the Naval Staff Admiral R Hari Kumar, Chief of the Air Staff Air Chief Marshal VR Chaudhari, Chief of Integrated Defence Staff to the Chairman, Chiefs of Staff Committee Air Marshal BR Krishna, Secretary Department of Defence R&D, Chairman DRDO Dr G Satheesh Reddy, Engineer-in-Chief Lt Gen Harpal Singh and other senior civil and military officials of Ministry of Defence were present on the occasion.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1852259>

Business Standard

Wed, 17 Aug 2022

Rajnath Singh Hands Over Multiple Indigenous Weapons to Indian Army

Defence Minister Rajnath Singh on Tuesday handed over multiple indigenous arms and ammunition to the Indian Army to further boost the country's defence sector. This consignment of weapons includes anti-personnel landmine 'Nipun', landing attack craft for operations in Pangong Tso lake, infantry combat vehicles and many other weapon systems. Lieutenant General Harpal Singh said, "The Union government has taken several policy decisions to help promote indigenisation of the defence sector. These indigenous weapons include mines, weapons of face-to-face combat, infantry combat vehicles."

Rajnath Singh handed over the weapons to the Army amid increasing challenges at the country's borders. The weapons include AK-203 assault rifles and F-INSAS (Futuristic Infantry Soldier as a System) rifles as well as the new anti-personnel mine 'Nipun'. They have been developed by Nagpur-based private firm Economic Explosives Ltd (EEL) and other Indian defence manufacturing companies. On this occasion, the Chief Engineer of the Indian Army, Lt Gen. Harpal Singh, on behalf of the Army Chief, assured the country that the Army is ready to deal with any possible security threat "whether it is the western desert (Pakistan) or the high altitude areas (China) in the Ladakh sector.

https://www.business-standard.com/article/current-affairs/rajnath-singh-hands-over-multiple-indigenous-weapons-to-indian-army-122081600563_1.html

Tue, 16 Aug 2022

These Indigenous Weapons Give Indian Army Edge in Future Wars

Defence minister Rajnath Singh on Tuesday inaugurated several initiatives of the armed forces including the e-governance applications, scales of accommodation (SoA 2022) and training modules. He also handed over indigenous equipment to the Indian Army at an event organised by the Military Engineering Services (MES), the construction wing of the army. The MES under engineer-in-chief Lt. General Harpal Singh has developed several applications including the MES complaint monitoring module ARMAAN (Army Mobile Aadhaar App Network), online digital payment through SBI-CMP, software-based application WBPMP (Web-based project monitoring portal) etc. Singh also unveiled the training modules comprising 198 illustrative videos on relevant subjects of latest construction techniques. The MES has also revised the Scale of Accommodation for ensuring contemporary specifications in future infrastructure assets. On this occasion, Rajnath Singh handed over indigenous equipment to the army which would give an edge to our soldiers in conflict situation.

- Landing Craft Assault (LCA): The army has boats operating in the Pangong Tso Lake, but with limited capabilities. Developed by Goa-based M/s Aquarius Ship Yard Limited, the LCA is much more versatile and has overcome the limitations of launch, speed and capacity, the statement said.
- Commander Thermal Imaging Sight for Tank T-90: This equipment gives enhanced visibility and range to the commanders of the armoured columns. Developed by India Optel Limited, the thermal imaging sight can detect heat signatures of enemy tank and equipment and are better for detection and targeting.
- Future Infantry Soldier as a system (F-INSAS): The future infantry soldier is equipped with three primary sub-systems including a modern state of art assault rifle along with day and night holographic and reflex sights. Based on the need, a thermal imager sight or image intensifier sight will be used. The sights are mounted on the weapon and also on helmet to enable 360degree visibility and accuracy in operational conditions.
- The second sub system includes a specially-designed helmet and a bulletproof jacket It will also have modular pouches and harnesses to carry grenades, magazines, radio sets and other operational equipment. The third sub system consists of communication and surveillance system. Each soldier will carry a radio set which is hands free and the section commander will also carry additional communication and surveillance devices for real time contact with his team.
- Infantry Protected Mobility Vehicle (IMPV): The induction of two types of high mobility vehicles developed by M/s Tata Advance Systems Limited provide mobility and protection to the soldiers.
- Quick Reaction Fighting Vehicle (Medium): This vehicle facilitates quick deployment of troops and will enable quicker reaction. These are tailor made vehicles with high mobility, enhanced firepower & protection. It will facilitate in creating moral ascendancy in our Northern Borders.

<https://www.hindustantimes.com/india-news/these-made-in-india-weapons-give-an-edge-to-indian-army-in-conflict-situation-101660641418533.html>

सेना को मिली फौलादी तकनीक माइंस से लेकर जमीनी लड़ाई के लिए मिले आधुनिक हथियार

■ विस/आईएनएस, नई दिल्ली

रक्षा मंत्री राजनाथ सिंह ने मंगलवार को भारतीय सेना को कई स्वदेशी हथियार सौंप कर सेना को ताकत बढ़ाई। इन हथियारों में माइंस, पर्सनल वेपंस और लड़ाई में काम आने वाले वाहन हैं।

● **क्यों है अहम** : ऐसे समय जब दुनिया की कई सेनाएं अपने थलसैनिकों को आधुनिक तकनीक से लैस कर रही हैं, भारत के लिए जवानों को आधुनिक सज्जोसामान से लैस करना जरूरी था। खासकर तब जबकि जमीन से लगती सीमाओं पर पड़ोसियों से रिश्ते बहुत अच्छे नहीं हैं। ये हथियार प्रणालियां किसी भी मौसम में जवानों की कार्यक्षमता को घटने नहीं देंगी।

● **सेना का क्या कहना है** : लोफ्टनेट जनरल हरपाल सिंह ने कहा कि स्वदेश में बने इन हथियारों में ऐंटी पर्सनल माइंस, आमने सामने लड़ाई के हथियार, इन्फैंट्री के लड़ाकू वाहन शामिल हैं। इनमें एके-203 और एफ-इंसास राइफलों के अलावा नई ऐंटी पर्सनल माइंस 'निपुण' भी शामिल है। नए हथियार भारतीय कंपनियों ने विकसित किए हैं।

इस मौके पर भारतीय सेना के मुख्य इंजिनियर लोफ्टनेट जनरल हरपाल सिंह ने सेना प्रमुख की ओर से देश को आश्वस्त किया है कि हम किसी भी खतरे से निपटने को तैयार हैं। भले वह पश्चिमी रंगिस्तान (पाकिस्तान) हो या लद्दाख सेक्टर में ऊंचाई वाले स्थान (चीन) से सटे इलाके। इस मौके पर रक्षा मंत्री राजनाथ सिंह को भारतीय सेना के फ्यूचर इन्फैंट्री सोलजर ऐज अ सिस्टम (एफ-इंसास) की नई हथियार प्रणालियों और एके-203 असाॅल्ट राइफल और शस्त्रों की जानकारी दी गई।

● **एफ-इंसास सिस्टम क्या है?**
: F-INSAS का पूरा नाम फ्यूचर इन्फैंट्री सोलजर ऐज अ सिस्टम है। यह एक तरह का प्रोग्राम है जो थलसैनिकों के आधुनिकीकरण के लिए बनाया गया है। इससे एक सैनिक की कार्यक्षमता में इजाजत होता है। इस प्रोजेक्ट के तहत सैनिक को हल्के वजन के आधुनिक सिस्टम से लैस किया जाता है। ये हर मौसम में काम करने लायक होते हैं, कम रखरखाव मांगते हैं।

● **किस तरह की चीजों से लैस होंगे?**
: एफ-इंसास सिस्टम के पूरे गेयर में



निपुण माइंस की खासियत:

ये देश में विकसित बारूदी सुरंग हैं। यह घुसपैठियों और दुश्मन की सेना को आगे बढ़ने से रोकने के काम आएंगी। इन्हें ऐंटी पर्सनल माइंस कहा जा रहा है क्योंकि इन्हें इंसानों के खिलाफ इस्तेमाल किया जाता है। ये छोटी होती हैं इसलिए बड़ी तादाद में विछाई जा सकती हैं।

पैगोंग झील में एलसीए

: एलसीए यानी लैंडिंग क्राफ्ट असाॅल्ट पूर्वी लद्दाख की पैगोंग से झील में गिरत करेगी। इन तेज नावों पर 35 सैनिक सवार हो सकते हैं।



कई चीजें शामिल हैं। मसलन, एके-203 असाॅल्ट राइफल जिसकी रेंज 300 मीटर तक है। इसे रूस के साथ मिलकर अमेठी में बनाया जा रहा है। इसके अलावा बलिस्टिक हेलमेट, बलिस्टिक गॉगल्स, बुलेट प्रूफ जैकेट भी इसमें शामिल हैं। ये हेलमेट और जैकेट एके-47 राइफल से दागी गई 9 एमएम तक की गोली से जवान को बचा लेंगे।

एफ-इंसास में सैनिक को राइफल के ऊपर होलोग्राफिक लेंस लगा मिलेगा। इससे 200 मीटर तक की रेंज में मौजूद टारगेट को तेजी से और सटीक निशाने पर लिया जा सकेगा। वहाँ हेलमेट पर अंधेरे में देख पाने वाले उपकरण लगे होंगे। ये कम रोशनी के समय बड़े

काम के साबित होंगे। जवान बिना हाथों का इस्तेमाल किए, आपस में संपर्क कर पाएँ, इसके लिए अडवांस्ड कम्युनिकेशन सिस्टम भी वदी में ही लैस होगा।

● **दूसरे देशों में किस तरह की वर्दी हैं** : सैनिकों के आधुनिकीकरण के लिए कई प्रोग्राम दुनिया भर में चलाए जा रहे हैं, जिनमें एफ-इंसास भी है। अमेरिका में लैंड वॉरियर है तो ब्रिटेन में फ्यूचर इंटिग्रेटेड सोलजर टेक्नालजी है। एक अनुमान के मुताबिक, दुनिया भर में बीस से ज्यादा सेनाओं के पास अपने सैनिकों के लिए ऐसे प्रोग्राम हैं। डीआरडीओ ने भारतीय सैनिकों के लिए प्रोग्राम बनाते समय बाकी देशों के सिस्टम की भी स्टडी की थी।



What is Nipun, F-INSAS and LCA? New Weapons and Weapon System for Indian Army



New Weapons and Weapon System for Indian Army

Defence Minister Rajnath Singh, on 16th August 2022, unveiled new weapons and futuristic weapon systems for the Indian Army as a part of the Army's modernisation plans. Let us know in detail about the new weapons and the weapon system here.

What is the F-INSAS System?

F-INSAS stands for Future Infantry Soldier As A System, an indigenously developed system that will help modernise the Indian Army units. The development of this system is aimed at improving the operational capabilities of the infantry units of the Indian Army. As a part of the F-INSAS project, the soldiers will be provided with modern fighting equipment that is lightweight, cost-effective, suitable for all weather and terrain conditions and requires low maintenance costs. The F-INSAS system comprises firepower in the form of the AK-203 Assault Rifle, a gas-operated, magazine-fed, select-fire assault rifle of Russian origin. India will be producing the AK-203 assault rifles in Amethi as a part of the India-Russia joint venture. The AK-203 Assault rifle has a range of 300 meters and is equipped with a rifle-mounted holographic sight for easier target acquisition on the battlefield.

The holographic sight is capable of high speed and accuracy. It can aim at a target 200 metres away. Apart from the assault rifle, the F-INSAS system comprises of ballistic helmet and goggles and bulletproof jackets. The bulletproof jackets protect against 9mm rounds and also the rounds fired from an AK-47 rifle. The ballistic helmet is equipped with night vision for superior functioning in night conditions. Along with that, the F-INSAS system boasts of an advanced communication system that provides hands-free operation and secure communication with posts

and also facilitates superior situational awareness. The F-INSAS system was conceived in the year 2005 as a part of the Infantry Vision 2020.

Nipun Anti-Personnel Mines

Nipun is the latest development in warfare for the Indian Army and is designed and developed indigenously. These mines act as the first line of defence against the infiltrators and advancing enemy infantry. These mines are developed with the joint collaboration of the Armament Research and Development Establishment, a part of DRDO and an Indian firm. Indian Army plans to induct about 7 lakh Nipun anti-personnel mines soon, as quoted by defence personnel.

Landing Craft Assault or LCA

The LCA is touted to be the replacement for boats for carrying personnel in battle operations; these lightweight assault carriers can carry up to 35 troops. This model is undergoing trials in the Pangong Tso Lake near LAC with China. Trials have shown that the carriers can reach any part of the lake within a short time. Aquarius Ship Yard Limited, Goa, developed these boats.

Benefits for the Indian Army

Introducing these weapons and weapon systems will enhance the operational capabilities of the Indian Army on land and water, which will help combat threats more effectively.

<https://www.jagranjosh.com/general-knowledge/what-is-nipun-finsas-and-lca-new-weapons-and-weapon-system-for-indian-army-1660657821-1>

Defence Mechanism

Will India move away from import dependence and become self-reliant in hi-tech weapons?

India's dependence on imports to fight its many wars and skirmishes since independence has been a heavy burden, draining foreign exchange and limiting strategic options. Self-dependence is not for the fainthearted and cannot be achieved overnight. It will require dedicated efforts for at least a decade. The government will need to handhold and protect all stakeholders, particularly the private sector.

As the country moves toward a century of freedom, the right trajectory has been achieved with a strong focus on shoring up domestic defence manufacturing. The policy framework has been created, with its strongest aspects being a negative import list.

Ambitious targets have been set, with the cornerstone being rapid upscaling of the private industry, with an aim to create a Rs 5 lakh crore defence and aerospace manufacturing market by 2047. This would be a quantum jump from the estimated Rs 1 lakh crore market in 2022.

The negative import list already contains over 300 major systems that will only be procured from local sources. This includes products ranging from light attack aircraft to tanks and assault rifles besides a range of ammunition. It will be vital to protect and expand this list.

Several moves have also been made to make the sector competitive.

The presence of a large private sector manufacturing ecosystem will be vital for infusion of technology and innovation in the armed forces. Already, in fields like Artificial Intelligence, start-

2047



Defending India

SELF-DEPENDENCE IN DEFENCE WILL NEED

Government to handhold and protect stakeholders, particularly the private sector

Freeing up the stranglehold of govt-owned entities over defence manufacturing

Promotion of private industry-led tech infusion

Aim is to create a **₹5 lakh cr** defence & aerospace manufacturing market by 2047

Currently estimated **₹1 lakh crore** market in 2022



Target of achieving **\$5 billion** worth of exports by 2025

ups and small firms have shown interest, with the first systems such as swarm drones and surveillance networks set to be inducted.

India cannot become self-reliant with an industry that depends on the national forces for orders. Playing the global market is essential to the survival and success of private sector players. If the target of achieving \$ 5 billion worth of exports by 2025 is met, it will be an indicator that India is on the right path.

रक्षा क्षेत्र की बदलती तस्वीर

नब्बे के दशक में जहां भारत हथियारों का पता लगाने वाली राडार प्रणाली हासिल करने के लिए अमेरिका और इजराइल के सामने हाथ फैलाने को मजबूर था, वहीं हाल में भारत ने यही राडार प्रणाली आर्मेनिया को बेच कर रक्षा बाजार में अपना झंडा गाढ़ा है। हाल के वर्षों में रक्षा क्षेत्र में भारत आत्मनिर्भरता की ओर तेजी से बढ़ा है। महत्त्वपूर्ण यह कि आज भारत दूसरे देशों को अपने बनाए हथियार और रक्षा साजोसामान बेच भी रहा है। देश में हथियारों और मिसाइलों के निर्माण का काम भी तेजी से शुरू हो चुका है। ब्रह्मोस मिसाइल के अलावा आकाश वायु रक्षा प्रणाली और स्वदेशी जेट विमान तेजस की भी पूरी दुनिया में धूम मची है। बड़े-बड़े देशों ने तेजस को खरीदने में दिलचस्पी दिखाई है।

रक्षा उपकरणों का सबसे बड़ा आयातक अमेरिका भी पूरी तरह भारत में विकसित इस लड़ाकू विमान में रुचि ले रहा है। अमेरिका, आस्ट्रेलिया, इंडोनेशिया और फिलिपीन सहित छह देश तेजस की खरीद के लिए आगे आए हैं। मलेशिया तो पहले ही इस विमान को खरीदने के लिए प्रस्ताव रख चुका है। इसके तहत वह भारत से अठारह तेजस खरीदने का इच्छुक है। हिंदुस्तान एरोनाटिक्स लिमिटेड द्वारा निर्मित तेजस एक इंजन वाला बहुउद्देश्यीय लड़ाकू विमान है, जिसकी क्षमता अत्यधिक खतरे वाले माहौल में परिचालन की है। देश की आजादी के बाद कई क्षेत्रों में बड़े काम हुए, लेकिन रक्षा क्षेत्र एक तरह से उपेक्षित ही रहा। इसका नतीजा यह हुआ कि दशकों तक भारत भारत रक्षा सामान और हथियारों के लिए दूसरे देशों पर ही निर्भर बना रहा। अगर इस ओर शुरू से ही ध्यान दिया जाता तो शायद 1962 में हम चीन से जंग में हारते नहीं। तब हमारे सैनिकों के पास लद्दाख जैसे ठंडे इलाके में लड़ने के लिए उपयुक्त सैन्य पोशाक और जूते तक नहीं थे।

लेकिन इसके बाद भी लंबे समय तक भारत रक्षा उपकरणों और छोटे-छोटे जरूरी सामान के लिए दूसरे देशों का ही मुंह ताकता रहा। कुछ साल पहले तक भी भारत रक्षा क्षेत्र में उपयोग होने वाले लगभग ज्यादातर उत्पाद, हथियार और उपकरण विदेशों से खरीदे जाते रहे। यही कारण रहा कि भारत पूरे विश्व में रक्षा उपकरणों का सबसे बड़ा आयातक देश बना रहा। पर अब हालात बदल रहे हैं। आज दक्षिण पूर्व एशिया में भारत का दबदबा बढ़ रहा है। हथियार निर्यात से न केवल देश की आय बढ़ी है, बल्कि फिलिपीन के बाद वियतनाम और इंडोनेशिया जैसे देशों ने भी भारत से हथियार खरीदने में दिलचस्पी दिखाई है। चीन दक्षिण चीन सागर से लेकर दक्षिण पूर्व एशिया तक विस्तारवादी नीति पर चल रहा है। इसलिए दक्षिण पूर्व एशियाई देशों के लिए वह बड़ी चुनौती बन गया है।

जाहिर है, ऐसे में हर देश के लिए सैन्य ताकत बढ़ाना वक्त की जरूरत बनता जा रहा है और संयोग से यह अवसर भारत को मिल रहा है। ब्रह्मोस मिसाइल के अलावा भारत में विकसित वायु रक्षा प्रणाली की भी दुनिया के रक्षा बाजार में खासी धूम है। सऊदी अरब और संयुक्त अरब अमीरात जैसे देश भी हमसे ये हथियार प्रणालियां खरीदना चाह रहे हैं। अभी मोटे तौर पर करीब बयालीस देश भारत से रक्षा उपकरणों और हथियारों का आयात करते हैं। इन देशों में कतर, लेबनान, इराक, इक्वाडोर और जापान जैसे देश भी शामिल हैं। भारत से निर्यात होने वाले रक्षा उपकरणों और हथियार प्रणालियों में प्रमुख रूप से युद्धक स्थितियों में शरीर की सुरक्षा करने वाले उपकरण शामिल हैं। वियतनाम, इंडोनेशिया और फिलिपीन के अलावा बहरीन, केन्या, सऊदी अरब, मिस्र, अल्जीरिया और संयुक्त अरब अमीरात ने भी आकाश मिसाइल को खरीदने में अपनी रुचि दिखाई है। कई अन्य देश तटीय निगरानी प्रणाली, राडार और एअर प्लेटफार्म खरीदना चाह रहे हैं।

सऊदी अरब, संयुक्त अरब अमीरात और दक्षिण अफ्रीका भारत से ब्रह्मोस मिसाइल खरीदने के लिए बात कर रहे हैं। ध्वनि की रफ्तार से तीन गुना तेज चलने वाली ब्रह्मोस मिसाइल भारत-रूस सैन्य सहयोग का एक उत्कृष्ट उदाहरण है। इसके निर्माण के लिए दोनों देशों के बीच 1998 में सहमति हुई थी। ब्रह्मोस मिसाइल का नाम ब्रह्मपुत्र और मस्क्वा नदियों के नामों को मिला कर रखा गया है। आज भारत रक्षा उपकरणों के निर्यात के मामले में दुनिया के शीर्ष पच्चीस देशों की सूची में शामिल हो गया है। वर्ष 2019 में रक्षा उपकरणों के निर्यात के मामले में भारत का स्थान उन्नीसवां था। नब्बे के दशक में जहां भारत हथियारों का पता लगाने वाली राडार प्रणाली हासिल करने के लिए अमेरिका और इजराइल के सामने हाथ फैलाने को मजबूर था, वहीं हाल में भारत ने यही राडार प्रणाली आर्मेनिया को बेच कर रक्षा बाजार में अपना झंडा गाढ़ा है।

रक्षा मंत्रालय के अनुसार भारत ने वित्त वर्ष 2017 में एक हजार पांच सौ इक्कीस करोड़ रुपए के रक्षा उपकरणों का निर्यात किया था, जो वित्त वर्ष 2018 में चार हजार छह सौ बयासी करोड़ रुपए का रहा और वित्तीय वर्ष 2019 में बढ़ कर दस हजार सात सौ पैंतालीस करोड़ रुपए के स्तर पर पहुंच गया था। कुल मिला कर पिछले सात वर्षों के दौरान भारत ने पचहत्तर से अधिक देशों को अड़तीस हजार करोड़ रुपए के रक्षा उपकरणों का निर्यात किया है।

नौसैनिक जहाजों का पूरी तरह से भारत में ही निर्माण भी एक बड़ी कामयाबी रही है। भारत की रक्षा उपकरण निर्माण कंपनियों ने सस्ती गश्ती नौकाएं बना कर दूसरे देशों को बेची हैं। इसी प्रकार हवाई रक्षा क्षेत्र में हिंदुस्तान एअरोनाटिक्स लिमिटेड ने प्रयोग के तौर पर उच्च स्तरीय हल्के हेलिकाप्टर का निर्माण भी सफलतापूर्वक किया है। अब तो सरकारी एवं निजी क्षेत्र में कई रक्षा उपकरण उत्पादक कंपनियां नए उत्पादों के साथ दुनिया के अन्य देशों से मुकाबला करने की स्थिति में आ रही हैं। वित्तीय वर्ष 2022-23 के रक्षा बजट में यह व्यवस्था की गई है कि

शोध एवं अनुसंधान पर खर्च की जाने वाली कुल राशि का पच्चीस प्रतिशत भाग निजी उद्योगों एवं नवाचारी उद्योगों को उपलब्ध कराया जाएगा। साथ ही, रक्षा सेवाओं के आधुनिकीकरण के लिए बारह प्रतिशत की वृद्धि के साथ 1.52 लाख करोड़ रुपए की राशि निर्धारित की गई है।

महत्वपूर्ण बात यह है कि सरकार ने 2024-25 तक रक्षा निर्यात लक्ष्य 36,500 करोड़ रुपए तक पहुंचाने का लक्ष्य रखा है। इस वक्त सरकार का जोर स्वदेशी हथियार निर्माण पर अधिक है। इस लक्ष्य को हासिल करने के लिए केंद्र ने आर्डिनेंस फैक्ट्री बोर्ड और इकतालीस आयुध निर्माण फैक्ट्रियों को मिला कर रक्षा क्षेत्र में सात सार्वजनिक उपक्रम (डीपीएसयू) बना दिए हैं। इसका उद्देश्य प्रशासनिक चुस्ती के साथ कामकाज में पारदर्शिता और तेजी लाना है। बीते आठ वर्ष में भारत के रक्षा निर्यात में करीब छह गुना वृद्धि हुई है। फिलिपीन के साथ 2,770 करोड़ रुपए का रक्षा सौदा मील का पत्थर है। पिछले चार-पांच वर्षों में देश का रक्षा आयात लगभग इक्कीस फीसद कम हुआ है। दूसरी ओर, रक्षा निर्यात सात गुना बढ़ा है। भारत वैश्विक मंच पर जैसे-जैसे खुद को स्थापित कर रहा है, उसी के साथ चुनौतियां भी बढ़ रही हैं। राष्ट्रीय रक्षा अब सीमाओं तक सीमित नहीं है, यह बहुत व्यापक है।

इसलिए हमें इन चुनौतियों से निपटना होगा। हमें उन ताकतों के प्रयासों को विफल करना होगा, जो भारत के हितों को नुकसान पहुंचाना चाहती हैं। और ऐसा तभी किया जा सकता है जब हम रक्षा-सुरक्षा में आत्मनिर्भर हों। रक्षा संबंधी जरूरतों का सामान अपने यहां बना सकें। अगर हथियार, रक्षा प्रणालियां और सैन्य साजोसामान के मामले में पूर्ण रूप से आत्मनिर्भर बन जाता है तो दुनिया का कोई देश हमें दबाव में नहीं ले पाएगा।

<https://www.jansatta.com/politics/changing-picture-of-defense-sector/2329629/>

 **The Indian EXPRESS**

Wed, 17 Aug 2022

Indian Army Issues RFP for Procurement of Quantum Key Distribution technology

The Ministry of Defence said the Indian Army has started the process of procurement of Quantum Key Distribution (QKD) technology developed by a Bengaluru-based cybersecurity company by issuing a commercial Request for Proposal (RFP). QKD is primarily a mechanism to undertake secure communication with a cryptographic protocol involving various components of quantum mechanics. The technology enables two sides to come up with random secret keys shared by both and known exclusively to them, so only they can use it to encrypt and decrypt messages, thus achieving a very highly-secure communication. QKD helps create a non-hackable quantum channel for creating unhackable encryption keys that are used to encrypt critical data or voice or video across the end points.

The MoD said Sunday that under the umbrella of its initiative ‘Innovation for Defence Excellence’ (iDEX) under Defence Innovation Organisation (DIO), the QNu Labs, a Bengaluru-based cybersecurity start-up has broken distance barriers by innovating advanced secured communication through QKD systems. “The project was curated by iDEX-DIO with the Indian Army. After the successful trials, the Indian Army has now initiated the process of procurement of QKD systems developed by QNu Labs by issuing commercial Request For Proposal (RFP) and its deployment,” the MoD said in a press statement. The ministry said that in the case of the system developed by the QNu, the quantum communication link was established over 150 kilometres in terrestrial optical fiber infrastructure. “When the country is celebrating ‘Azadi Ka Amrit Mahotsav’, India is all set to join the league of global leaders with indigenous and more advanced quantum communication technology in order to equip its Armed Forces with high end defence,” the release added.

The Defence Secretary Dr Ajay Kumar termed the development of indigenously QKD technology as a milestone achievement in ‘Azadi Ka Amrit Kaal’ and a befitting success story of ‘Aatmanirbhar Bharat’, the press statement said. The Defence Secretary also applauded the efforts of the Department of Defence Production, Ministry of Defence, iDEX-DIO, Army Design Bureau and the Indian Army Signals Directorate, which have contributed in development of high end quantum technology in the country for the first time. QNu Labs’ co-founder and CEO Sunil Gupta was quoted in the release as saying, “The vision of putting India on the forefront of deep technologies in the field of data security through the use of quantum technology has finally borne fruit. Winning the Open Challenge-2 of iDEX has provided a launching pad to QNu Labs to achieve this stellar success.” Earlier in February, a joint team of experts from Defence Research and Development Organisation (DRDO) and Indian Institute of Technology (IIT) Delhi had demonstrated QKD link for over 100 kilometres. A similar demonstration was held over a shorter distance in the first week of December 2020, when the technology was tested for communication between two DRDO facilities in Hyderabad — Defence Research and Development Laboratory (DRDL) and Research Centre Imarat (RCI) — over a distance of 12 kilometres.

<https://indianexpress.com/article/india/indian-army-quantum-key-distribution-technology-8094089/>

THE ECONOMIC TIMES

Wed, 17 Aug 2022

UP Clears Plan to Increase Limit of Cap Subsidy Up to Rs 500 Cr for Def Investors

The UP government on Tuesday passed a proposal that significantly increases the maximum limit of capital subsidy that investors looking to invest in the state's defence sector can avail. The move is to relax rules and further incentivise manufacturers to produce in the state, in line with its target of reaching \$1 trillion in terms of GDP. Earlier, producers willing to invest in the state's upcoming defence sector could get a capital subsidy of 15%, up to a maximum 15 crore in the Bundelkhand region, or 10% or maximum of Rs 10 crore in non-Bundelkhand region. Further, in

the MSME sector, defence investment in the nonBundelkhand region attracted a maximum capital subsidy of 5% or 5 crore, and 7.5% or 7.5 crore in the Bundelkhand region.

Among multiple amendments made to the Defence and Aerospace Manufacturing Policy of 2018, the cabinet approved a proposal to increase the maximum subsidy an investor can avail to 500 crore for all categories. This major relaxation of the policy will incentivise producers to expand their current production and bring in large-ticket investments. The subsidy rates have been rationalised to 7% for enterprises coming up in the nonBundelkhand region, and 10% for those coming up in Bundelkhand region (to be valued leaving out land cost). However, units will only be given a maximum of 50 crore per year as subsidy. The limits, said additional chief secretary of infrastructure and industrial development, Arvind Kumar, were redesigned after careful comparison with other states as well, so that UP emerges as an attractive destination.

CEO of the UP Expressways and Industrial Development Authority (Upeida) -- the nodal agency carrying out the development of the defence industrial corridor in the state -- Awanish Awasthi said the amendment in the defence policy is the first of a series of amendments that will take place across multiple sectoral policies, to make them more attractive for investors ahead of the Global Investors Summit that UP plans to hold in January next year, with an aim to rope in Rs 10 lakh crore worth of investment. Awasthi said the state has received investments worth about ₹3,000 crore in the defence sector, and the relaxations will help it fulfil the target of ₹10,000 crore worth of defence investment.

<https://economictimes.indiatimes.com/news/defence/up-clears-plan-to-increase-limit-of-cap-subsidy-up-to-500-cr-for-def-investors/articleshow/93602021.cms?from=mdr>

Indigenous technology and out-of-the-box thinking has been the story behind India's IAC TOI

Vikrant: The Making Of A Leviathan

AnanthaNarayanan.K
@timesgroup.com

In its very first sea trial last August, INS Vikrant achieved the top speed of 28 knots, a rarity for a defence vessel its size and power anywhere in the world, yet, at a certain point, India's first indigenous aircraft carrier (IAC) had been in real danger of being left high and dry. In nautical parlance, they call it 'hull slaughtering'.

The incident happened in the lead-up to the ship's official launch in 2013. Cochin Shipyard Limited (CSL), the ship's builders, wanted a functional launch, one that would see the 45,000-tonne leviathan slide effortlessly from dry dock into the water. But the Navy wanted the frills as well — what's an aircraft carrier without its ski-jump (the curving, elevated portion of the flight deck used to launch fighter jets), they asked, and rightly so.

The ski-jump would mean an extra 330 tons and, as it were, the Kochi dry dock could just about take the ship's bare-bones weight. There was a real possibility that the ship wouldn't budge, or its hull could be damaged.

VITAL STATS

The IAC is **262m long, 62m wide** at the flight deck and has a height of 59m (about as tall as a 15-storey building)



Flight deck comparable to **2 football grounds**

First aircraft carrier and largest ship designed and built in India



2,500km of cable on board would cover more than the distance between Kochi & Delhi

No less than **700 ladders** and corridors on board add up to a length of 8km



Workshops for voyage repair requirements of equipment as well as aircraft



Hospital complex with **CT & ultrasound scanning**, x-ray machine, OT and dental clinic



3 galleys with automated idli, dosa and chapati makers.

Can make **3,000 chapatis an hour**



Can carry **30 aircraft** and **1,700 sailors**



Powered by **twin gas turbines**, the vessel can reach top speed of 28 knot (51kmph)

First vessel with **8 diesel alternators** of 3 megawatt each, generating 24MW, which can light up entire Kochi city



Can carry **6,000 tonne of diesel**. Has endurance of 7,500 nautical miles (14,000km) at cruising speed of 18 knot (33kmph)



contd...

The project's Russian consultants said they could find a solution but demanded a prohibitive price. Left with no choice, the CSL's engineers improvised — they put together a buoyancy pontoon (huge steel balloons that from either side provided ballast to lift the ship) and it worked just fine. "CSL designed the special pontoon and simulated it several times. The Russians were dumbstruck. We had combined available technology and some out-of-the-box thinking," said NV Suresh Babu, former director (operations) of CSL and a current adviser to the shipyard.

A mix of indigenous technology and lateral thinking has been the story behind the building of India's IAC that started formally in 2004 and ended on July 28 when the ship was handed over to the Navy.

The IAC, to be commissioned in the Indian Navy as INS Vikrant, is 262m-long, or the size of two football fields, and is the biggest ship built in India. When the project contract was first awarded to CSL, a commercial shipyard that had no experience in

making a warship, there was scepticism. "Now we are one of the very few shipbuilders who have built an aircraft carrier and that earns a lot of respect to all," said Madhu S Nair, chairman and managing director of CSL.

TRIAL AND ERROR

Conceived in the late 1990s, it was the first time a project of such magnitude was being implemented in India. The only experience CSL had with defence vessels was the repair and refits of INS Viraat. However, CSL's experience in building large tankers and bulk carriers was an advantage.

Another challenge was procuring steel as IAC is the first ship to be built in India using indigenously developed special-grade high tensile steel (DMR 249). The initial plan was to procure it from Russia. Later, the Defence Metallurgical Research Laboratory developed the steel indigenously and Steel Authority of India Limited produced nearly 22,000 tonne.

IAC has the most complex integrated platform management systems (IPMS), considered the brain that keeps the vessel 'alive',

ever built in India. Due to its complexity, CSL and Navy decided to do an integrated trial of IPMS before integrating it into the ship. The trial was held at the Bharat Heavy Electricals Limited complex in Bengaluru in 2015. "The very first test failed miserably. The team went back to the drawing board and completed the second trial successfully. If the trial had not been held before integration, it could have been much more complex to resolve," said Anish S, CSL's deputy manager who played a key role in developing the IAC's IPMS.

MILES TO GO...

Nair said it took a while for everyone to start believing that CSL could actually do the project but the result has borne them out. "It may not be the biggest carrier but we can proudly say IAC is the best carrier in terms of technology, systems etc. It completed all five sea trials with exemplary performance. I would not say we have done everything correctly. But there is a first time for everything. We could easily make another IAC in around 7-8 years," Madhu Nair said.



Wed, 17 Aug 2022

LM2500 Engines Powers India's First Indigenous Aircraft Carrier INS Vikrant

The addition of the Vikrant to the Indian Navy's fleet is a significant accomplishment for the Government's "Make In India" initiative, as 76% of the content is indigenous, adding India to an elite group of nations with indigenous aircraft carriers (IAC). With the commissioning of the

Vikrant, the Indian Navy has 18 GE Marine engines in service, with additional engines in production to support the ongoing Project 17A ship construction. The IAC project started in 2007, and when selected, GE Marine announced the LM2500 marine gas turbines would power the ship and be built by Indian partner Hindustan Aeronautics Limited (HAL). The 262-meter-long carrier has 14 decks, can accommodate a crew of 1,700, and is capable of operating 30 aircraft. The Vikrant underwent four phases of sea trials of major equipment and systems between August 2021 and July 2022. “On this monumental day for the Indian Navy, having commissioned their first indigenous aircraft carrier, GE Marine is proud to be the power behind its propulsion. We are committed to supporting India’s indigenous military programs through our long-standing in-country relationships.”

Kris Shepherd, Vice President & General Manager, GE Marine For more than 30 years, GE has worked with HAL, which assembles, inspects, and tests all LM2500 gas turbines built for the Indian Navy. The LM2500 gas turbine kits were manufactured at GE’s Evendale, Ohio, facility and assembled and tested by HAL’s Industrial & Marine Gas Turbine Division in Bangalore, India. HAL is one of the world’s leading aerospace companies involved in the manufacture and maintenance of aircraft, helicopters, avionics and aerospace defence equipment. With the world’s most market-dominant gas turbine from GE, the Indian Navy and 39 other navies around the globe have worldwide support, whether onshore or at sea, and interoperability benefits with other allied ships. GE has delivered gas turbines onboard 633 naval ships worldwide and provides 95% of the commissioned propulsion gas turbines in the United States Navy fleet. With the LM2500’s outstanding track record of being ready for the fight, coupled with its ease of maintenance and global support, the LM2500 continues to be the gas turbine of choice of the world’s navies.

<http://www.indiandefensenews.in/2022/08/lm2500-engines-powers-indias-first.html?m=1>

THE ECONOMIC TIMES

Tue, 16 Aug 2022

Geopolitical Fault-Line in East Asian Maritime Domain could be Grave: Rajnath Singh

Defence Minister Rajnath Singh who took part in Moscow Conference on International Security 2022 virtually on Tuesday pointed out that the potential geopolitical fault-line in the maritime domain – particularly in East Asia – could be grave than what is being witnessed currently. “The potential geopolitical fault-line in the maritime domain – particularly in East Asia – could be graver than what we are witnessing today,” he said at the conference which is attended by Ministers of Defence from different countries. Singh recalled that about two years ago many were gathered in Moscow to celebrate the 75th anniversary of the victory in the second world war. “We remembered with gratitude the sacrifices of our forefathers including millions of Indian soldiers who served the allied armies. The war led to the emergence of the United Nations with a promise to global security, freedom of people and socioeconomic advancements.”

He highlighted that the nations combined their efforts to save succeeding generations from the scourge of war. “All these were to be achieved through multilateral cooperative efforts and by

adherence to the charter of the United Nations. Today it is imperative to examine how much of these is achieved and where we fell short of expectations.”“India has been a pioneer in UN peacekeeping since its inception. Have deployed more than a quarter million troops in as many as 49 UN peacekeeping missions. 5500 personnels deployed across 9 missions. Serving under the blue flag 77 brave indian soldiers have made the supreme sacrifice the largest among troops contributing countries.”He stressed that India is representing one sixth of humanity and has contributed relentlessly to the global security under the UN charter. The Minister said that India is committed to non discriminatory and verifiable nuclear disarmament.“India led annual resolution at the annual UNGA titled measure to prevent terrorist from acquiring weapons of mass destruction.”

He stated that though UN has given countries a platform in a number of areas but clearly there is a confidence crisis in the UN system. “Several global contemporary challenges has come to the fore such as terrorism, radicalism pandemic, calls for a robust multilateral response. All collective effort has fallen short.”“Without contemporary reforms and without democratization in decision making UN might loose its relevance.”He recalled the clarion call given by PM Modi on the occassion of the 75th anniversary of UN, “For how long will India be kept out of the decision making structure of UN?”“Reforms in the responses, in the processes and in the very charter of the UN is the need of the hour. It is a fact that the faith and the respect that UN enjoys among the 1.3 billion people in India is unparalleled.”“Global security in the framework of multilateralism requires abiding by the UN charter and principles of international law which acts as a bulwark against anarchy. India is committed for free, open and secure Indo-Pacific region that promotes sustainable maritime practices.\

<https://economictimes.indiatimes.com/news/defence/geopolitical-fault-line-in-east-asian-maritime-domain-could-be-grave-rajnath-singh/articleshow/93599713.cms>

बड़ा एटम बम गिराने वाला रूसी विमान खरीदेगा भारत

सीमा पर चीन के आक्रामक रुख से निपटने के लिए सरकार का फैसला

नई दिल्ली, (पंजाब केसरी): पिछले साल नवंबर में चीन ने भारतीय सीमा पर एच-6के नामक स्ट्रैटेजिक बॉम्बर तैनात किया था। उस समय भारत के पास चीन के इस हथियार का कोई तोड़ नहीं था। अब खबर है कि भारत ड्रैगन को जवाब देने के लिए रूस से दुनिया का सबसे घातक स्ट्रैटेजिक बॉम्बर खरीदने जा रहा है। सीमा पर चीन के लगातार आक्रामक रुख से निपटने के लिए भारत के जल्द ही रूस से दुनिया के सबसे घातक स्ट्रैटेजिक बॉम्बर में शुमार टीयू-160 खरीदने की रिपोर्ट्स हैं। टीयू-160 को वाइट स्वान यानी सफेद हंस भी कहते हैं। हाल ही में रूस से एस-



भारत के पास क्यों नहीं हैं स्ट्रैटेजिक बॉम्बर ?

चीन के साथ सीमा पर जारी तनाव को देखते हुए भारत की इस डील को करने की संभावनाएं बढ़ गई हैं। इससे पहले 1970 के दशक में सोवियत रक्षा मंत्री सर्गेई गोरबाकोव के टीयू-22 बैकफायर बॉम्बर देने के ऑफर को भारतीय एयरफोर्स ने ठुकरा दिया था। एयरफोर्स का मानना है कि भारत के पास स्ट्रैटेजिक बॉम्बर न होने की एक बड़ी वजह

400 एयर डिफेंस सिस्टम हासिल करने के बाद जेट बॉम्बर भारत के लिए एक और महत्वपूर्ण डील साबित हो सकता है। दुनिया में अब तक केवल 3 देशों-अमेरिका, रूस और चीन के पास ही स्ट्रैटेजिक बॉम्बर हैं। अमेरिका के भारी विरोध के बावजूद रूस से एस-400 एयर डिफेंस सिस्टम हासिल करने के बाद भारत अपना पहला स्ट्रैटेजिक बॉम्बर जेट भी खरीदने जा रहा है। स्ट्रैटेजिक बॉम्बर ऐसे जेट होते हैं, जो पलक झपकते ही दुश्मन के घर में जाकर बम या मिसाइल गिराकर वापस लौट आते हैं। स्ट्रैटेजिक बॉम्बर की खासियत ही होती है 'कहीं भी कभी' हमला करने में सक्षम। भारत के पास ऐसे बॉम्बर आने से उसके लिए बालाकोट जैसी एयर स्ट्राइक करना आसान हो जाएगा। ये जानकारी इंडियन एयरफोर्स के पूर्व प्रमुख

ये भी है कि इन बॉम्बर का इस्तेमाल अक्सर सीमा पर करके टूरन के घर में घुसकर करना पड़ता है। भारत की ऐसी कोई महत्वाकांक्ष नहीं रही है। भारत के पास पहले से ही अपनी सीमा में रहकर टूरन के ठिकानों को निशान बनाने में सक्षम टैक्टिकल बॉम्बर और फाइटर प्लेन हैं।

अरुण साहा के हाल ही में चाणक्य फाउंडेशन के दिल्ली में आयोजित कार्यक्रम में दिए भाषण से मिली। अपने भाषण में साहा ने भारत के रूस से बॉम्बर खरीदने की योजना का जिक्र किया। हालांकि, अभी भारत और रूस में से किसी ने भी इस डील को लेकर आधिकारिक बयान नहीं दिया है रिपोर्ट्स के मुताबिक, भारत की रूस से कम से कम छह टीयू-160 बॉम्बर एयरक्राफ्ट लेने की डील की बातचीत आखिरी दौर में है।

The Manila Times®

Wed, 17 Aug 2022

PH to Get Missile System Next Year

The initial delivery of the BrahMos missile system to Manila is expected in 2023, the Indian Embassy in Manila said. In an interview on the sidelines of India's 75th Independence Day celebration in Taguig City on Monday night, Indian Ambassador to the Philippines Shambhu Kumaran said the contract "is proceeding quite well." "We are expecting the deliveries to happen sometime next year; we don't have a specific date but we're working towards next year," he told reporters. The Department of National Defense signed the contract for the acquisition of the Indian-made BrahMos medium-range ramjet supersonic cruise missiles worth P18.9 billion last January 28.

Under the contract, Manila will get three missile batteries, each consisting of mobile autonomous launchers and tracking systems. The BrahMos cruise missile can be launched from a ship, aircraft, submarine or land, and has a top speed of around Mach 2.8 (around 3,400 kilometers per hour) and is capable of carrying warheads weighing 200 to 300 kilograms. The Philippine Marine Corps' Shore Based Anti-Ship Missile battalion, activated last April 3, will operate the anti-ship missile systems.

<https://www.manilatimes.net/2022/08/17/news/national/ph-to-get-missile-system-next-year/1854871>

THE ECONOMIC TIMES

Tue, 16 Aug 2022

India's Security Establishment Keeping Eye on Visit of Chinese Satellite Ship to Sri Lanka Port

India is concerned over the visit of a Chinese satellite tracking ship to Sri Lanka's Hambantota port as it signals an attempt by China to expand its maritime influence in the region, sources in defence and security establishment said on Tuesday. The ship, Yuan Wang 5, arrived at the strategically located port on Tuesday morning for a replenishment stay for a week, Sri Lankan officials said in Colombo. However, sources in the Indian defence and security establishment said the aim of the ship's visit cannot be only replenishment and that it could be used to snoop on Indian installations. They said India has been conveying to Sri Lanka its opposition to such forays in the past as well and that India's concerns were not limited to just one visit. The ship was originally scheduled to arrive at the Hambantota port on August 11 but it was delayed in absence of permission by the Sri Lankan authorities. Sri Lanka had asked China to defer the visit amid India's concerns over it. On Saturday, Colombo granted the port access to the vessel from August 16 to 22.

There were apprehensions in New Delhi about the possibility of the vessel's tracking systems attempting to snoop on Indian installations while on its way to the Sri Lankan port. "We are closely watching the visit by the ship," said a source. A day before the ship docked in Hambantota port, India handed over to Sri Lanka a Dornier maritime surveillance aircraft. The aircraft would act as a force multiplier, enabling Sri Lanka to tackle challenges such as human and drug trafficking, smuggling and other organised forms of crime in its coastal waters more effectively, the Ministry of External Affairs said. "Induction of the aircraft is timely in view of the current challenges to Sri Lanka's maritime security," it said.

<https://economictimes.indiatimes.com/news/defence/indias-security-establishment-keeping-eye-on-visit-of-chinese-satellite-ship-to-sri-lanka-port/articleshow/93600110.cms?from=mdr>

Chinese Spy Ship's Docking in Sri Lankan Port Spells Long-Term Concerns for India

The electronic snooping by Chinese research and space-tracking vessel Yuan Wang-5, which docked at Hambantota on Tuesday, is a no-brainer. The Indian security establishment's bigger worry is that the ship's arrival in Sri Lanka could act as a precursor for Chinese warships to regularly use the island nation as an operational turnaround facility in future. China, which already has the world's largest Navy with 355 warships and submarines, has been actively hunting for logistical bases in the Indian Ocean Region (IOR) after establishing its first overseas base at Djibouti on the Horn of Africa in August 2017. China, of course, also has readily available access to Karachi and Gwadar ports in Pakistan. "China is making moves for such facilities all over the IOR, from Cambodia, Seychelles and Mauritius to east African countries, to sustain its naval forays in the region. We have all the more reason to be concerned if it also happens in our immediate strategic backyard as well," a senior officer said on Tuesday.

The assessment is that China will steadily build the case for the use of Sri Lanka's southern port of Hambantota — which it obtained on a 99-year lease for commercial purposes in 2017 using its debt-trap policy — by its warships and submarines for logistical replenishments. "Hambantota can become a permanent pit-stop for Chinese warships," another officer said. There is, of course, acknowledgement that Sri Lanka has been hit hard by its domestic political and economic meltdown. India this year has already extended an unprecedented support of over \$3.8 billion to ameliorate the economic situation in Sri Lanka, apart from military-capacity building that saw the Indian Navy gift a Dornier-228 maritime patrol aircraft to the Sri Lankan Air Force on Monday. But China's economic wherewithal and muscle power cannot be matched.

Indian concerns about the over 20,000-tonne Yuan Wang-5, which is packed with antennae, sensors and advanced electronic equipment with a crew of around 400, had initially led Sri Lanka to defer the vessel's docking at Hambantota on August 11. But then in a U-turn, Colombo allowed its docking at the port from August 16 to 22. The Indian Navy has been constantly monitoring Yuan Wang-5, which is under the command of the PLA's Strategic Support Force and can track trajectory of long-range ballistic missiles, monitor satellite launches and gather electronic intelligence, since it arrived in the IOR after leaving China in mid-July. China, incidentally, has been regularly sending research and survey vessels to the IOR to map oceanographic and other data useful for navigation and submarine operations, among other purposes. In addition to warships, China has even been sending nuclear and conventional submarines to the IOR under the guise of anti-piracy patrols in the Gulf of Aden since December 2013. Sri Lanka has so far refrained from allowing Chinese submarines to dock at its ports after India had strongly protested two such incidents in 2014.

<https://timesofindia.indiatimes.com/world/south-asia/chinese-spy-ship-arrives-in-sri-lanka-despite-india-us-concerns/articleshow/93581788.cms>

China Not Allowed to Use Hambantota Port for Military Purposes: Sri Lankan President Wickremesinghe

Colombo, Aug 16 (PTI) China will not be allowed to use the southern port of Hambantota for military purposes, Sri Lankan President Ranil Wickremesinghe has said, apparently attempting to allay fears in India and the US about China's increasing maritime presence in the strategic Indo-Pacific region. Wickremesinghe said this ahead of the arrival of a high-tech Chinese research ship, which on Tuesday docked at the Hambantota Port, which Beijing took over on a 99-year-lease as a debt swap in 2017. "We do not want Hambantota to be used for military purposes," Wickremesinghe said on Sunday in an interview with the Yomiuri Shimbun newspaper at the President's House in Colombo. His statement to the Japanese newspaper was apparently aimed at allaying fears in India and the United States about China's increasing maritime presence in the Indo-Pacific. The port was developed as part of China's Belt and Road Initiative, but Colombo leased the port to Beijing in 2017 because it became unable to pay back the loan.

Wickremesinghe emphasised that there was no problem with loaning the port to China, saying, "this is nothing new." He pointed out that countries such as Australia and South Africa have also leased ports. The Hambantota Port was funded largely by Chinese interest loans. According to official data from the Sri Lankan government, China is Sri Lanka's largest provider of foreign debt. Struggling to repay what it owes, Colombo has leased the southern port to Chinese state-owned enterprises for 99 years. Sri Lanka can be said to have fallen into a debt trap, sinking deeply into debt before effectively handing over the port's control to China. India, the United States and other countries are concerned that Hambantota Port, which is a key traffic hub in the Indo-Pacific, could become a military foothold for China. "The present ship did not come under the category of military. [It] came under the category of a research ship. That is how [we] permitted the ship to come to Hambantota," Wickremesinghe said, indicating his stance to maintain certain ties with China.

Sri Lanka is in a serious economic crisis due to a shortage of foreign currency. The president said he intended to finalise talks with the International Monetary Fund over a bailout by the end of August. "We will also start the discussions with our creditors. China, India and Japan are the largest creditors," he said. Wickremesinghe, 73, was elected president on July 20, following the resignation of former President Mahinda Rajapaksa, who fled the country amid the turmoil caused by the economic crisis.

<https://theprint.in/world/china-not-allowed-to-use-hambantota-port-for-military-purposes-sri-lankan-president-wickremesinghe/1085085/>

Tue, 16 Aug 2022

Russian Defence Ministry Signs Sarmat Intercontinental Ballistic Missiles Contract

The announcement for the manufacture and supply of the Sarmat intercontinental ballistic missiles came at the Army-2022 defence expo, which recently revealed an M-81 robot dog, armed with an RPG-26, that was “capable of target shooting and transporting weapons, civilian purposes in emergency areas for reconnaissance, walking-through debris and delivering medicines.” “A state contract is being signed for the manufacture and supply of the Sarmat strategic missile system,” the announcement at the expo revealed.



Russian Defence Ministry signs Sarmat intercontinental ballistic missiles contract.

According to the Russian state media outlet, *RIA*, the contracts were signed by the Deputy Minister of Defense of the Russian Federation Alexei Krivoruchko and the General Director of the State Missile Center. Makeeva Vladimir Degtyar. The first launch of the rocket was made in April 2022, and at the time, the Russian military declared the test launch a success. “Today (April 20) at 15:12 Moscow time at the Plesetsk state test cosmodrome in the Arkhangelsk region, a Sarmat fixed-based intercontinental ballistic missile was successfully launched from a silo launcher,” the agency said. It added: “The launch tasks have been completed in full. The design characteristics have been confirmed at all stages of its flight. Training warheads have arrived in a given area at the Kura training ground on the Kamchatka Peninsula. “This launch is the first in the state test program. After the completion of the test program, the Sarmat missile system will go into service with the Strategic Missile Forces,” the military said. Sarmat, a silo-based missile, is the latest Russian-designed ICBM which is set to replace the R-36M2 “Voevoda” missiles in service with the Strategic Missile Forces. Russia claims that the Sarmats can carry Avangard hypersonic warheads, which are capable of hitting objects with the kinetic energy of the warhead

without using a nuclear explosion. Also, the missile is believed to be able to carry 10 nuclear warheads with a capacity of 750 kilotons each. While another person wrote: “A single strike from such a missile could destroy Great Britain if anything. just for the record And 10 of these missiles could destroy the USA. It’s the only missile in the world that can fly around the globe.”

<https://euroweeklynnews.com/2022/08/16/russian-defence-ministry-sarmat-intercontinental-ballistic-missile/>

Science & Technology News



Tue, 16 Aug 2022

How Omicron BA.5 Became A Master of Disguise – What It Means for the Current Covid Surge

The COVID omicron subvariant known as BA.5 was first detected in South Africa in February 2022 and spread rapidly throughout the world. As of the second week of July 2022, the BA.5 subvariant constituted nearly 80% of COVID-19 variants in the United States. Soon after researchers in South Africa reported the original version of the omicron variant (B.1.1.529) on November 24, 2021, many scientists – including me – speculated that if omicron’s numerous mutations made it either more transmissible or better at immune evasion than the preceding delta variant, omicron could become the dominant variant around the world.

Indeed, the omicron variant did become dominant early in 2022, and several sublineages, or subvariants, of omicron have since emerged. This includes BA.1, BA.2, BA.4, and BA.5, among others. With the continued appearance of such highly transmissible variants, it is evident that SARS-CoV-2, the virus that causes COVID-19, is effectively using classic techniques that viruses use to escape the immune system. These escape strategies range from changing the shape of key proteins recognized by your immune system’s protective antibodies to camouflaging its genetic material to fool human cells into considering it a part of themselves instead of an invader to attack. I am a virologist who studies emerging viruses and viruses that jumped from animals to humans, such as SARS-CoV-2. My research group has been tracking the transmission and evolution of SARS-CoV-2, evaluating changes in how well the omicron subvariants evade the immune system and the severity of disease they cause after infection.

How is virus transmissibility in a population measured?

The basic reproduction number, R_0 – pronounced “R-naught” – measures the transmissibility of a virus in a yet-uninfected population. Once a proportion of individuals in a population become immune due to prior infection or vaccination, epidemiologists use the term effective reproduction number, called R_e or R_t , to measure the transmissibility of the virus. The R_e of the

omicron variant has been estimated to be 2.5 times higher than the delta variant. This increased transmissibility most likely helped omicron out-compete delta to become the dominant variant. The larger question, then, is what is driving the evolution of omicron sublineages? The answer to that is a well-known process called natural selection. Natural selection is an evolutionary process where traits that give a species a reproductive advantage continue to be passed down to the next generation, while traits that don't are phased out through competition. As SARS-CoV-2 continues to circulate, natural selection will favor mutations that give the virus the greatest survival advantage.

What makes omicron and its offshoots so stealthy at spreading?

Several mechanisms contribute to the increased transmissibility of SARS-CoV-2 variants. One is the ability to bind more strongly to the ACE2 receptor, a protein in the body that primarily helps regulate blood pressure but can also help SARS-CoV-2 enter cells. The more recent omicron sublineages have mutations that make them better at escaping antibody protection while retaining their ability to effectively bind to ACE2 receptors. The BA.5 sublineage can evade antibodies from both vaccination and prior infection.

Omicron sublineages BA.4 and BA.5 share several mutations with earlier omicron sublineages, but also have three unique mutations: L452R, F486V and reversion (or the lack of mutation) of R493Q. L452R and F486V in the spike protein help BA.5 escape antibodies. In addition, the L452R mutation helps the virus bind more effectively to the membrane of its host cell, a crucial feature associated with COVID-19 disease severity. While the other mutation in BA.5, F486V, may help the sublineage escape from certain types of antibodies, it could decrease its ability to bind to ACE2. Strikingly, BA.5 appears to compensate for decreased ACE2 binding strength through another mutation, R493Q reversion, that is thought to restore its lost affinity for ACE2. The ability to successfully escape immunity while maintaining its ability to bind to ACE2 may have potentially contributed to the rapid global spread of BA.5.

In addition to these immune-evading mutations, SARS-CoV-2 has been evolving to suppress its hosts' – in this case, humans' – innate immunity. Innate immunity is the body's first line of defense against invading pathogens, comprised of antiviral proteins that help fight viruses. SARS-CoV-2 has the ability to suppress the activation of some of these key antiviral proteins, meaning it's able to effectively get past many of the body's defenses. This explains the spread of infections among vaccinated or previously infected people. Innate immunity exerts a strong selective pressure on SARS-CoV-2. Delta and omicron, the two most recent and highly successful SARS-CoV-2 variants, share several mutations that could be key in helping the virus breach innate immunity. However, researchers do not yet fully understand what changes in BA.5 might allow it to do so.

What's next?

BA.5 will not be the end game. As the virus continues to circulate, this evolutionary trend will likely lead to the emergence of more transmissible variants that are capable of immune escape. While it is difficult to predict what variants will arrive next, we scientists cannot rule out the possibility that some of these variants could lead to increased disease severity and higher hospitalization rates. As the virus continues to evolve, most people will get COVID-19 multiple times even if they are vaccinated and boosted. This could be confusing and frustrating for some, and may contribute to vaccine hesitancy. Therefore, it is essential to recognize that vaccines protect you from severe disease and death, not necessarily from getting

infected. Research over the past two and a half years has helped scientists like me learn a lot about this new virus. However, many unanswered questions remain because the virus constantly evolves, and we are left trying to target a constantly moving goal post. While updating vaccines to match circulating variants is an option, it may not be practical in the short term because the virus evolves too rapidly. Vaccines that generate antibodies against a broad range of SARS-CoV-2 variants and a cocktail of broad-ranging treatments, including monoclonal antibodies and antiviral drugs, will be critical in the fight against COVID-19.

<https://scitechdaily.com/how-omicron-ba-5-became-a-master-of-disguise-what-it-means-for-the-current-covid-surge/>

