

October  
2022

# समाचार पत्रों से चयित अंश Newspapers Clippings

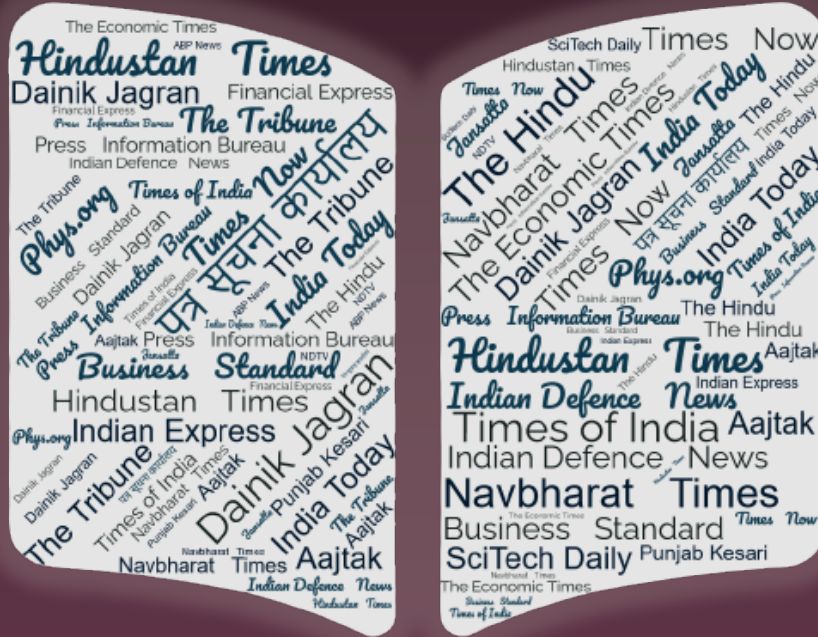
A Daily service to keep DRDO Fraternity abreast with DRDO  
Technologies, Defence Technologies, Defence Policies,  
International Relations and Science & Technology

खंड : 47 अंक : 198

19 अक्टूबर 2022

Vol.: 47 Issue: 198

19 October 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.
	<b>DRDO News</b>	<b>1-12</b>
	<b>DRDO News : DRDO Technology News</b>	<b>1-11</b>
1.	डिफेंस एक्सपो से DRDO की ताकत देखेगी दुनिया, गांधीनगर में जुटेंगे 100 देशों के लोग	<i>Hindustan</i> 1
2.	14 महीने में तैयार हुई है ये जबरदस्त स्वदेशी पिस्टल, डिफेंस एक्सपो में दिखेगा जलवा	<i>Navbharat Time</i> 3
3.	Brahmos: Indian Military Prime Strike Missile System	<i>Business Standard</i> 4
4.	Brahmos, Pinaka in Heavy Demand as India Gears Up to Meet \$5 Billion Defence Export Target by 2025	<i>India Today</i> 5
5.	PM Modi Sets Target of India's Defence Export, Brahmos Aerospace Chairman Reveals	<i>Mint</i> 5
6.	India's BrahMos-NG Missiles to Begin Trials in Early 2024 as Delhi, Moscow Continue to Boost Defense Ties	<i>The Eurasian Times</i> 6
7.	What is the Pinaka Rocket Launcher that India will Export to Armenia?	<i>Firstpost</i> 8
8.	Dr. Samir V Kamat, Chairman DRDO TT with Sameer Dixit	<i>TimesNow</i> 10
9.	India's Fifth-Generation Combat Aircraft Design to Get Done by December	<i>Asianet Newsable</i> 11
	<b>DRDO On Twitter</b>	<b>12-12</b>
	<b>Defence News</b>	<b>13-41</b>
	<b>DefExpo 2022</b>	<b>13-34</b>
10.	Raksha Mantri Exhorts Startups & Innovators to Come Up with New Ideas to Modernise the Armed Forces through Research & Innovation & Make India 'Aatmanirbhar	<i>Press Information Bureau</i> 13
11.	Live Demonstrations, Showcasing the Operational Readiness & Scientific Prowess of the Armed Forces, Enthral the Audience During DefExpo 2022	<i>Press Information Bureau</i> 15
12.	Raksha Mantri Holds Bilateral Meetings with his Rwandan, Armenian & Maldivian Counterparts on the Sidelines of DefExpo 2022	<i>Press Information Bureau</i> 16
13.	India-Africa Defence Dialogue Held on the Sidelines of DefExpo 2022 in Gandhinagar, Gujarat; Paves Way for Strengthening of India-Africa Defence Relations	<i>Press Information Bureau</i> 16
14.	India's International Ties Guided by Principles of Equality: Rajnath Singh	<i>Hindustan Times</i> 18
15.	'India Does Not Believe in Hierarchical World Order': Rajnath Singh at IADD	<i>Hindustan Times</i> 20
16.	Gujarat All Set to Host India's Biggest Defence Expo, PM Modi to Attend Inaugural Ceremony Tomorrow	<i>India Today</i> 21
17.	PM Modi to Launch Defence Space Mission with 75 Innovative Challenges	<i>Hindustan Times</i> 23
18.	HAL's New Jet and More...What to Expect at DefExpo 2022, India's Largest Defence Exhibition	<i>Firstpost</i> 24
19.	Ashok Leyland Presents Next Generation Capabilities for Indian Armed Forces	<i>The Print</i> 25
20.	India Made HTT-40 to be Unveiled at DefExpo 2022, Deal for IAF Expected Soon	<i>Financial Express</i> 27
21.	Boeing CH-47 Chinook's 200th Crown & Tail Cone is 'Made in India'	<i>Financial Express</i> 28
22.	Kalyani Group to Set Up World's Largest Artillery Manufacturing Facility in India	<i>Financial Express</i> 28
23.	स्वदेशी हथियारों की ताकत की प्रदर्शनी, चीन से सटी एलएसी पर की जा सकती है तैनाती	<i>ABP News</i> 29

24.	UK to Strengthen Defence Collaboration with India at DefExpo 2022	<i>GOV.UK</i>	32
25.	India, UK to Create New Defence Industry Joint Working Group for Cooperation	<i>Hindustan Times</i>	33
26.	Armenia Eyes Akash Missile, Loitering Munitions from India Amid Conflict with Azerbaijan	<i>The Print</i>	34
<b>Defence Strategic: National/International</b>			<b>35-41</b>
27.	AK-47 का बाप है रूस की AK-203 राइफल, बिजली की स्पीड से निकलती है गोली, जानें भारत में बनने वाली बंदूक की ताकत	<i>Navbharat Times</i>	35
28.	Adani Defence Systems to Acquire Air Works at an Enterprise Value of Rs. 400 cr	<i>Mint</i>	37
29.	Why the Arihant Missile Test was Critical for India	<i>Hindustan Times</i>	38
30.	Rolls-Royce Pursues 'Atmanirbhar Bharat' in All Three Dimensions	<i>Business Standard</i>	39
31.	'Confident Pak can Secure Nukes': State Dept After Biden's 'Dangerous' Comment	<i>Hindustan Times</i>	41
<b>Science &amp; Technology News</b>			<b>42-44</b>
32.	First 11 Awardees of WISER Programme to Promote Participation of Women in International R&D and Industry Projects Facilitated	<i>Press Information Bureau</i>	42
33.	Why has ISRO Named GSLV Mk-III as LVM-3 for OneWeb Launch?	<i>India Today</i>	43

## डिफेंस एक्सपो से DRDO की ताकत देखेगी दुनिया, गांधीनगर में जुटेंगे 100 देशों के लोग

गुजरात के गांधीनगर में रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) द्वारा आयोजित 12वें डिफेंस एक्सपो में स्वदेशी हथियारों, रक्षा उपकरणों और तकनीकों का प्रदर्शन होगा। डीआरडीओ द्वारा विकसित किए गए 430 से अधिक रक्षा उपकरणों तथा हथियारों की ताकत का गवाह दुनिया के 100 देश बनेंगे। एक्सपो में 25 देशों के रक्षा मंत्री व 75 देशों के प्रतिनिधि हिस्सा ले रहे हैं। एशिया के इस सबसे बड़े रक्षा आयोजन के 12वें संस्करण की थीम 'पाथ टू प्राइड' है, जो 'इंडिया एट 75' और 'आत्मनिर्भर भारत' के साथ संबद्ध है।

### बॉर्डर सर्विलांस सिस्टम (बीओएसएस)

इसकी खासियत यह है कि यह रात-दिन, धूप-बारिश किसी भी मौसम में करता है। ये खुद ही ऑटोमैटिक रोटेशन में घूमता है। यह दुश्मन के मूवमेंट को तस्वीरों के जरिए कंट्रोल रूम तक पहुंचा देता है। इससे 20 किलोमीटर दूर से ही दुश्मनों पर नजर रखी जा सकती है।

### लेजर फेंस सिस्टम (एलएफएस):

लेजर फेंस सिस्टम (एलएफएस) बाड़े की तरह काम करता है। लेजर तकनीक से लैस यह सिस्टम महत्वपूर्ण प्रतिष्ठानों, प्रतिबंधित क्षेत्रों और सीमाओं की रक्षा के लिए बहुत उपयोगी है। अनधिकृत व्यक्तियों के द्वारा घुसपैठ को रोकने के लिए अंतर्राष्ट्रीय सीमा पर भी इसका उपयोग किया जा सकता है। भारतीय सेना नौसेना, वायु सेना, केंद्रीय रिजर्व पुलिस बल (सीआरपीएफ) और कई अन्य सरकारी एजेंसियों के लिए यह उपयोगी है।

### इन हथियारों की ताकत को देखेगी दुनिया

**प्रहार मिसाइल-** मिसाइल 150 किमी तक की दूरी तक प्रहार करने में सक्षम है। यह तुरंत प्रतिक्रिया देने वाली संक्षिप्त दूरी की मिसाइल है। इसमें ईंधन के तौर पर ठोस प्रणोदकों का इस्तेमाल किया गया है। हर मौसम में सटीक लक्ष्य साधनेवाली हथियार प्रणाली है।

**रुद्रम 3 मिसाइल-** दुश्मनों के लिए यह मिसाइल काफी घातक है। इसकी सबसे बड़ी खासियत इसका एंटी रेडिएशन मिसाइल होना है। इसका मकसद राडार को ध्वस्त कर वहां की सभी सूचना तकनीक को नष्ट करना होता है। यह हवा से जमीन पर वार करनेवाली मिसाइल है। इसका रेंज 500 किलोमीटर से अधिक है।

### **माउंटेड गन सिस्टम (एमएसजी):**

यह हाईब्रिड गन सिस्टम नई तकनीक पर आधारित है। यह 48 किमी दूर से ही दुश्मनों के ठिकानों को तबाह कर सकता है। यह स्वदेश में निर्मित हथियार है।

### **ये हथियार भी एक्सपो में**

मध्यम दूरी की सतह से हवा में मार करने वाली मिसाइल (एमआरएसएम), वैभव- एंटी टैंक पॉइंट अटैक मुनिशन, विशाल- एंटी टैंक बार माइन, प्रचंड- एंटी टैंक, 9X19 एमएम मशीन पिस्टल, लाइट टैंक, लाइट मशीन गन, प्रलय, एआईपी सिस्टम- एयर इंडिपेंडेंट प्रपल्शन।

### **नौसेना बताएगी स्वदेशी कॉम्बैट सिस्टम**

स्वदेशी रूप से विकसित किए गए कुछ प्रमुख उपकरणों या प्रणालियों में कॉम्बैट मैनेजमेंट सिस्टम, टॉरपीडो ट्यूब लॉन्चर्स और इंफ्रा-रेड सिग्नेचर सप्रेसन सिस्टम आदि शामिल हैं। भारतीय नौसेना की ताकत इससे काफी बढ़ गई है। पनडुब्बियों में इन सिस्टमों का इस्तेमाल किया गया है।

### **2025 तक रक्षा निर्यात 5 बिलियन डॉलर का लक्ष्य**

प्रधानमंत्री नरेंद्र मोदी ने 2025 तक रक्षा निर्यात 5 बिलियन अमरीकी डॉलर करने का लक्ष्य दिया है। ब्रह्मोस एयरोस्पेस के अध्यक्ष अतुल डी राणे ने कहा कि हम उम्मीद कर रहे हैं कि अकेले ब्रह्मोस एयरोस्पेस उस समय तक उस आंकड़े को हासिल करने में सक्षम होगा। उन्होंने कहा कि फिलीपींस से अधिक ऑर्डर प्राप्त करने की उम्मीद है। निर्यात के लिए वियतनाम, मलेशिया और कई अन्य देशों से बात की जा रही है।

### **डिफेंस एक्सपो में क्या है खास(18-22 अक्टूबर)**

- 1320 रक्षा कंपनियां ले रही हिस्सा, पिछली बार 1028 थी।
- 25 देशों के रक्षा मंत्री, 75 देशों के प्रतिनिधि शामिल होंगे।
- 400 एमओयू पर हस्ताक्षर, 1.25 लाख करोड़ रुपए का निवेश।

- गुजरात की कंपनियां 33 एमओयू पर हस्ताक्षर करेंगी।
- गुजरात में 5500 करोड़ के निवेश की उम्मीद।
- एचएएल द्वारा विकसित ट्रेनर विमान पहली बार प्रदर्शित होंगे।
- स्टार्टअप व उद्योगों के लिए 75 चुनौतियां रखी जाएंगी।
- साबरमती रिवरफ्रंट पर अब तक का सबसे बड़ा ड्रोन शो होगा, जिसमें 1600 ड्रोन हिस्सा लेंगे।

<https://www.livehindustan.com/national/story-world-will-see-the-power-of-drdo-from-defense-expo-people-from-100-countries-will-gather-in-gandhinagar-7240062.html>

## नवभारत टाइम्स

मंगलवार, 18 अक्टूबर 2022

### 14 महीने में तैयार हुई है ये जबरदस्त स्वदेशी पिस्टल, डिफेंस एक्सपो में दिखेगा जलवा

गुजरात के गांधी नगर में डिफेंस एक्सपो 2022 का आयोजन किया जा रहा है। पीएम नरेंद्र मोदी बुधवार को हथियारों की इस प्रदर्शनी का उद्घाटन करेंगे। इस प्रदर्शनी में स्वदेशी विकसित मशीन पिस्टल अस्मी (ASMI) को भी प्रदर्शन के लिए रखा गया है। इस पिस्टल को भारतीय सेना के अधिकारी कर्नल प्रसाद बनसोड़ और डीआरडीओ लैब ने 14 महीने में विकसित किया है। 9 एमएम की इस पिस्टल को डेवलप करने वाले कर्नल प्रसाद बनसोड़ इंफैंट्री स्कूल महु से जुड़े हैं। रक्षा अनुसंधान एवं विकास संगठन (DRDO) और भारतीय सेना ने भारत की 9 एमएम की पहली स्वदेशी मशीन पिस्तौल तैयार की है।

#### अस्मी की खासियत

इस मशीन पिस्टल में अपर रिसीव एयरक्राफ्ट ग्रेड एल्युमिनियम से बना है जबकि निचला रिसीवर कार्बन फाइबर से बना है। ट्रिगर सहित इसके विभिन्न भागों की डिजाइनिंग और प्रोटोटाइपिंग में 3डी प्रिंटिंग प्रक्रिया का इस्तेमाल किया गया है। इस मशीन पिस्टल का वजन (खाली) 2 किलो से कम है। इसमें 8 इंच बैरल और 33 राउंड हाइ कैपिसिटी मैगजीन लोड होती है।

#### गौरव, आत्मसम्मान का प्रतीक है

स्वदेशी रूप से बने इस हथियार को 'ASMI' नाम दिया गया है जिसका अर्थ है गौरव, आत्म सम्मान और कड़ी मेहनत। इस एक मशीन पिस्टल की उत्पादन लागत 50,000 रुपये से कम है। अस्मी न केवल केंद्रीय पुलिस संगठनों बल्कि राज्य पुलिस सेवाओं के भीतर भी बेहतर विकल्प हो सकती है। साथ इसके दक्षिण पूर्व एशियाई क्षेत्र सहित विभिन्न देशों में निर्यात की बड़ी संभावनाएं हैं।



## कहां होगा अस्मी का प्रयोग

सशस्त्र बलों में हेवी वेपन डिटेचमेंट, कमांडरों, टैंक तथा विमानकर्मियों ड्राइवर/डिस्पैच राइडरों, रेडियो/राडार ऑपरेटरों, चरमपंथ विरोधी और आतंकवाद रोधी अभियानों में व्यक्तिगत हथियार के रूप में इसकी क्षमता काफी अधिक है। इसका इस्तेमाल केंद्रीय तथा राज्य पुलिस संगठनों के साथ-साथ वीआईपी सुरक्षा इयूटियों तथा पुलिसिंग में किया जा सकता है।

<https://navbharattimes.indiatimes.com/india/what-is-asmi-machine-pistol-indigenously-developed-by-indian-army-officer-lt-col-prasad-bansod-and-drdo-lab/articleshow/94949574.cms>

# Business Standard

Tue, 18 Oct 2022

## BRAHMOS: Indian Military's Prime Strike Missile System

**BRAHMOS has given the Indian Armed Forces much-needed capability to undertake deep surgical strikes in both land and sea**

India has a volatile and dynamic neighbourhood spread along its vast international borders surrounded by both land and sea which has always provided immense strategic challenges in safeguarding country's national interests. These borders are vehemently defended by the Indian Armed Forces equipped with advanced military technologies and weapon systems.

In today's changing security paradigm, BRAHMOS, the fastest operational cruise missile, is a perfect emblem of India's growing military prowess which has grown from strength to strength over the years and added new capabilities to meet divergent war scenarios.

The weapon has become the mainstay of the Indian Army's artillery firepower with several regiments raised. Similarly, for many of the Navy's frontline surface ships, BRAHMOS has been deployed as a prime strike weapon in both land-attack and anti-ship configurations. The missile has also proved its 'salvo' launch capability to knock down single or different targets located in different directions. BRAHMOS missile is capable of being launched from submarine from a depth of 40-50 metres.

BRAHMOS-A air-launched cruise missile, arming the Sukhoi-30 MKI aircraft has recently becoming fully-operationalised and war-ready after receiving its first-ever Fleet Release Clearance (FRC). In 2020, a squadron of fourth-generation fighter jets Sukhoi-30 MKI ('Tigersharks' 222 squadron) equipped with the BRAHMOS supersonic cruise missile was inducted in the Southern India, adding teeth to India's air and maritime dominance in the Indian Ocean Region.

The deployment of BRAHMOS cruise missile system in the services has given the Indian Armed Forces the much needed capability and punch to undertake deep surgical strikes in both land and sea, thus protecting its international borders and annihilating enemy assets and installations when required. The 'fire-and-forget' missile has the capa-



bility to take on surface-based targets by flying a combined hi-lo trajectory, thus evading enemy air defence systems.

BRAHMOS, with a fine combination of speed, precision and lethal firepower, three times more velocity, 2.5 to 3 times more flight range, 3 to 4 times more seeker range and nine times more kinetic energy than any existing state-of-the-art subsonic cruise missiles, can wipe off advances of any adversary with pin-point accuracy by day or night and in all weather conditions.

BRAHMOS has recently conducted numerous

successful launches which boost India's defence indigenisation efforts by significantly highlighting the vital contributions of BRAHMOS missile to the Govt. of India's ambitious "Make in India" initiative. BRAHMOS has also achieved historic milestones in the flagship "Aatmanirbhar Bharat" programme by successfully indigenising major sub-systems of the missile taking the Indian contribution to seventy percent. All launcher systems for the weapon are manufactured domestically, 100% of ground support equipment for the weapon complex are also being made in India.

Both Defence Research & Development Organisation (DRDO) of India and JSC MIC NPO Mashinostroyeniya (NPOM) of Russia have made impressive strides in joint design, development and production of the high-technology BRAHMOS. The supersonic cruise missile is a unique example of the partnership between both the nations in critical areas of research and development.

BrahMos Aerospace also prides itself in possessing a full-fledged design centre, an Industrial Consortium for producing different sub-systems, a world-class integration, and check-out facilities with stringent quality control. BrahMos Missile Industrial Complex comprises of more than 200 Indian industries and multiple Russian industries, R&D labs and academic institutions of both the countries.

BRAHMOS has also emerged as a potential weapon of choice with several countries across continents evincing strong desire in possessing the versatile weapon. Philippines in Jan 2022 signed a multi-million dollar contract with BrahMos Aerospace for the supply of shore-based anti-ship variant of the BRAHMOS supersonic cruise missile.

The supersonic cruise missile has charted many milestones since its inception and added new capabilities and firepower through many variants for all the three wings of armed forces. With all these incredible feats and traits, BRAHMOS today has become the most formidable military asset of the country.

*Tue, 18 Oct 2022*

## **Brahmos, Pinaka in Heavy Demand as India Gears Up to Meet \$5 Billion Defence Export Target by 2025**

Indian firms, such as BrahMos Aerospace and Solar Group, on Tuesday, October 18, said they have started getting orders from abroad — an indication of the growing strength of Indian defence industry. BrahMos Aerospace chairman Atul D Rane said: “Prime Minister Narendra Modi has set a target of achieving \$5 billion in defence exports by 2025. We are hoping that BrahMos Aerospace alone should be able to achieve that figure by that time.” Rane said: “We are hoping to get more orders from the Philippines and we are talking to Vietnam, Malaysia, and many other countries as well.” BrahMos bagged a \$335 million order for BrahMos from the Philippines earlier this year. Meanwhile, Armenia, which is in the middle of a war with Azerbaijan, has placed orders for Pinaka rockets manufactured indigenously by the Solar Group. “We received an export order from Armenia, which is to be completed within two years,” Solar Group chairman Satyanarayan Nuwal told India Today TV.

Speaking at the DefExpo-2022, he said Nigeria and Indonesia, too, expressed interest in the Mukti barrel rocket launcher system developed indigenously by the firm in partnership with the Defence Research and Development Organisation (DRDO). India had earlier tasted success in the export sector in Armenia when it transferred the indigenously developed Swathi weapon-locating radar. The Indian Army, which is looking at inducting a big number of regiments of Pinaka rockets also placed a big order. Kalyani Systems also said that their mine-protection vehicle, which can withstand heavy landmine explosions, has also been cleared for export to foreign countries and has been deployed in foreign missions by the Indian government. Goa Shipyard Limited chairman Brajesh Upadhyay said that they received an order from Sri Lanka for a floating dock and are looking for more orders from friendly neighbouring countries.

<https://www.indiatoday.in/india/story/brahmos-pinaka-defexpo-indian-defence-export-target-2287032-2022-10-18>

*Tue, 18 Oct 2022*

## **PM Modi Sets Target of India's Defence Export, Brahmos Aerospace Chairman Reveals**

Prime Minister Narendra Modi has given the target of achieving USD 5 billion in defence exports by 2025, said BrahMos Aerospace Chairman Atul D Rane, adding that they are hoping for more orders from the Philippines. He also said BrahMos Aerospace is hoping that it should alone be able to achieve that figure by that time. We are hoping to get more orders from the Philippines and we are talking to Vietnam, Malaysia and many other countries for exports," Rane



was quoted by ANI. Defence Minister Rajnath Singh said that India registered defence exports worth Rs. 8,000 crore in six months of the current financial year. He was speaking at the curtain raiser event of DefExpo, that is taking place from October 18 to 22, in Gandhinagar yesterday, Monday. The minister also said that India's defence sector registered exports worth Rs. 30,000 crore after 2014 when the Narendra Modi government came to power at the Centre.

"Before 2014, we used to achieve (defence) exports of Rs. 900-1,300 crore. After all these years, we have achieved exports worth more than Rs. 30,000 crore to date. We can add another Rs. 8,000-9,000 crore of the export target (this year)," Singh said as quoted by PTI. The theme of 12th DefExpo is 'Path to Pride' which is in line with PM Modi's vision to transform India into a strong and self-reliant nation by supporting, showcasing and forging partnerships for the Indian Aerospace and Defence manufacturing sectors with Indian as well as global customers. The India Pavilion - a marque pavilion of Department of Defence Production, Ministry of Defence - will showcase the maturity of indigenous defence products, start-ups, latest technology, including Artificial Intelligence in defence, and will present India's vision for 2047. It has been named 'Path to Pride'. The DefExpo 2022 will also mark the celebration of one year of the formation of the seven new defence companies, carved out of the erstwhile Ordnance Factory Board. All these companies will be participating for the first time at DefExpo.

<https://www.livemint.com/news/india/pm-modi-sets-target-of-india-s-defence-export-11666071064179.html>



*Wed, 19 Oct 2022*

## **India's BrahMos-NG Missiles to Begin Trials in Early 2024 as Delhi, Moscow Continue to Boost Defense Ties**

Atul Rane, CEO of BrahMos Aerospace, announced on October 18 that the qualification trials of the BrahMos NG missile are anticipated to start in early 2024. BrahMos is a supersonic cruise missile developed by the Russian-Indian joint company BrahMos Aerospace. The Russian NPO Mashinostroeniya and the Indian DRDO are the collaborative producers of the weapon. The Indian Air Force, Navy, and Ground Forces use the BrahMos missile. The BrahMos Aerospace CEO told reporters that this new generation is what the company was working on, and the design work is currently being completed. BrahMos Aerospace will conduct the design assessment in NPO Mashinostroyeniya in Moscow. Additionally, it is expected that the company will enter the qualifying trials of the brand-new missile in a year, supposedly in 2023 or early 2024.

According to the CEO, the new next-generation missile weighs almost half as much as the regular BrahMos missile currently operational with India. It is its most potent and lethal supersonic cruise missile. "1,330 kilograms is what we are aiming for. Performance in terms of range is the same, 300 kilometers. [We want it to be] launchable from any aircraft [in service in India]," the CEO said. It is also pertinent to note that the joint venture is looking to

accelerate its export after signing its first-ever export deal for \$375 million with the Philippines. Rane told reporters that the company hopes to bag orders worth \$5 billion by 2025. It is currently discussing a potential sale with countries like Indonesia, Vietnam, and Malaysia for new orders.

This indicates growing military cooperation between New Delhi and Moscow despite Indian Prime Minister Narendra Modi's message to Putin that "It was not the era for war but peace," highly praised by the West. In April 2021, Russia's Foreign Minister Sergei Lavrov implied that the two countries were discussing "additional" production of Russian military equipment in India. Not just that, EurAsian Times reported on October 17 that Russia has offered to supply the Indian Army with the Sprut SDM1 light amphibious tank and has submitted a technical proposal to New Delhi to that end. BrahMos NG missile is soon to enter the trial phase, and the AK-203 Rifles will soon start production in India. This comes when the United States and other western countries have sought to deepen cooperation with India to wean it off its dependence on Russian military equipment.

### **BrahMos Next-Generation Missile: Coming Soon!**

The Brahmos missile, currently in service with all three wings of the Indian military, has a range of up to 290 kilometers and flies at supersonic speeds the entire time, which reduces target dispersion, speeds up engagement time, and ensures that any weapon system cannot intercept it. It follows the 'Fire and Forget Principle,' taking various routes to reach its destination. BrahMos has tremendous destructive force since it impacts a target with a massive amount of kinetic energy. Its terminal altitude is only 10 meters, with a cruising height of up to 15 kilometers. A missile can carry a conventional warhead weighing 200 to 300 kilograms. The BrahMos-NG (Next Generation) will be a scaled-down variant of the current BrahMos missile. It is expected to be 50% lighter, three meters smaller than the current BrahMos, and have the same 290-kilometer range and Mach 3.5 speed. It will weigh around 1.5 tons and will be about 5 meters long.

Due to BrahMos-NG's reduced weight and size can be carried by a broader range of platforms, including conventional submarines and fighter planes. The missile can be fired from the ground, the air, the ocean, and underneath. This missile's size allows it to be fired even from submarine torpedo tubes. The Russian-origin Su-30MKI fighter jet, which can now only transport one BrahMos, will be able to transport five BrahMos-NGs in the future. The missile can be installed on the MiG-29 and the indigenous LCA Tejas, said Praveen Pathak, Chief General Manager (Marketing Promotions and Export) BrahMos Aerospace International Maritime at the Defense Show (IMDS).

According to certain speculations, the BrahMos-NG would also be compatible with the Rafale. Additionally, the BrahMos NG has a lower radar cross-section (RCS) than the existing BrahMos missile, making it stealthier and challenging for air defense systems to locate and engage the target. The BrahMos missile has been touted as a game-changer by military engineers and experts. The missile is so lethal and capable that when India deployed the BrahMos along the Line of Actual Control, it made the People's Liberation Army personnel fume angrily.

<https://eurasianimes.com/india-brahmos-ng-missile-to-begin-trials-in-early-2024/>

## **What is the Pinaka Rocket Launcher that India will Export to Armenia?**

Developed by the DRDO, Pinaka has been manufactured by indigenous private firms. It was first used during the Kargil War and was recently deployed at India's border with China amid tensions over Ladakh. India is all set to export its indigenously-manufactured Pinaka rocket launcher to Armenia. According to Solar Industries, the company manufacturing the weapons system, Armenia has placed an export order to be completed within two years and Nigeria and Indonesia are in line to make a purchase. "Life and range of upgraded Pinaka rocket launchers is more, despite price being almost same. We've received export order from Armenia, to be completed within two years. Both Nigeria and Indonesia have also expressed interest," Solar Industries chairman Satyanarayan Nuwal said.

Nuwal was speaking at DefExpo 2022, India's largest-ever defence exhibition, where the weapon is being showcased. Let's take a closer look at the Pinaka Rocket launcher: The rocket launcher gets its name from the legendary bow of Shiva. As per *Financial Express*, it was developed by the Defence Research and Development Organization (DRDO) based on an 8x8 vehicle. The Armament Research & Development Establishment (ARDE), Pune and High Energy Materials Research Laboratory (HEMRL), Pune also contributed to its development, as per *India Today*. It is a comprehensive system that integrates high energy propulsion, submunition warheads, servo-controlled launcher structure as well as fire control computer, as per the newspaper. The first Pinaka Mk1 Indian Army regiment was raised in February 2000, as per *EurAsian Times*.

According to *Kashmir Observer*, the rocket launcher can fire 12 HE rockets in 44 seconds. As per *India Today*, it delivers lethal and responsive fire against a variety of area targets such as exposed enemy troops, armoured and soft skin vehicles, communication centres, air terminal complexes, fuel and ammunition dumps. It allows ground forces a deep strike option and is capable of hitting critical military installations. As per *Armenian Weekly*, the Pinaka has six launchers that can neutralise an area measuring 1000 meters x 800 meters with a range of 60 to 75 kilometers, and a DIGICORA MET radar. It is designed to replace the Armenian Army's Russian-built BM-21 Grad launchers.

It has since been inducted into the Indian Army in large numbers, which is in the process of fielding 10 Pinaka Mk-1 regiments, as per *EurAsian Times*. The upgraded version of the Pinaka rocket launcher reportedly has a range in excess of 90 kilometers. The *Economic Times* last week reported that the Ministry of Defence authorised the export of weapons via a government-to-government channel, under which the two countries signed agreements to deliver weapons and ammunition to Armenia. While the deal's value was not disclosed, the report claimed armaments worth \$250 million would be sold 'over the next few months'. "This order includes six additional first-ever export of the indigenous Pinaka multi-barrel rocket launchers. This weapon, which is

already in service with the Indian Army, has been designed by the Defence Research and Development Organisation (DRDO) and manufactured by private sector companies in the country,” sources told the newspaper.

### **What experts say**

Experts told *EurAsian Times* that the contract is likely for the Pinaka Mk-1 MBRLS rather than the Pinaka Mk-2 or Pinaka Mk-2 EPRS. The longer-range Pinaka-2 systems, with optional (INS/GPS) guided rockets, have finished user trials, but aren't being produced yet. The defence ministry in December said a series of successful tests of the enhanced range Pinaka rocket launcher system were conducted at the Pokhran range. In an official statement, the Ministry of Defence said, “The DRDO, along with the Army, conducted a series of performance evaluation trials. In these trials, enhanced range Pinaka rockets were test-fired at different ranges with various warhead capabilities. All the trial objectives were met satisfactorily. 24 rockets were fired for different ranges and warhead capabilities to meet the objectives of accuracy and consistency.” The production capacity for the Pinaka Mk-1 rocket launcher is over 5,000 per year, as per the report.

### **India's geopolitical play?**

India's move comes in the backdrop of Armenia being involved in a conflict with Azerbaijan (backed by Turkey, which has recently towed Pakistan's line on Kashmir). As per *Kashmir Observer*, India earlier in October called for the “aggressor side” in fighting along the Armenia-Azerbaijan border to “immediately cease hostilities”, a dig at Azerbaijan which it did not name. As per *Financial Express*, the Pinaka MBRL would be extremely effective in any border conflict while targeting armoured formations. But experts say the Pinaka rocket launcher alone may not be enough to tilt the balance decisively Armenia's way. As Major General Raj Mehta (retired) told *EurAsian Times*: “What we are exporting won't be enough. More importantly, Pinaka and tank missiles aren't drone compatible and are also expensive.

“In war, hammers aren't the right way ahead to kill flies. One must carry out a threat assessment, after which the correct weapons can be chosen. A ‘transparent’ battlefield allows wise choices to be made. An Indian assessment team could identify the real battlefield problems and then suggest what India could provide at a reasonable cost.”

### **‘Aiming for 35,000-cr exports by 2025’**

India registered defence exports worth Rs 8,000 crore in six months of the current financial year and aims to achieve the target of outbound shipments of Rs 35,000 crore by 2025, defence minister Rajnath Singh said on Monday. Singh was speaking at the curtain raiser event of Defence Expo (DefExpo). Singh said India's defence sector has registered exports worth Rs 30,000 crore after 2014 when the Narendra Modi government assumed office at the Centre. He said India is progressing speedily on the path to achieve global standards of design, development and manufacturing of defence equipment. “Before 2014, we used to achieve (defence) exports of Rs 900 crore-Rs 1,300 crore. But we have achieved exports worth more than Rs 30,000 crore to date (since 2014). We can add another Rs 8,000 crore-Rs 9,000 crore of the export target (this year),” Singh said.

We target to achieve (annual defence) exports worth Rs 35,000 crore by the end of FY 2025. We have achieved exports worth Rs 8,000 crore in six months (of FY 2022-23),” Singh said at the curtain raiser event attended by media persons. Officials said so far 451 agreements related to the

defence sector with proposed investment of Rs 1.50 lakh crore have been signed in run up to the DefExpo. Of these, Gujarat-based companies have signed MoUs with an investment pledge of Rs 5,000 crore, they said. Singh said India has in the last few years covered a transformational journey from being a (defence) importer to an exporter. “India, which was until a few years back, considered the world’s biggest (defence) importer is now standing in the queue of 25 top exporting countries,” Singh said in his address on the occasion.

He said more than 1,3000 companies are participating in the DefExpo, which is the largest number for the event so far. Singh said as far as import dependence in the defence sector is considered, he has created a ‘positive indigenisation list’ of 410 items and more than 3,000 components of public sector undertakings (PSUs) which India wants to stop importing from abroad over the next few years. The Union minister said the theme of the DefExpo – ‘Path to Pride’ – is a vision of a new India. “If we want the world to trust our products, then first we will have to trust ourselves. ‘Path to Pride’ is a continuous process of that same trust,” he said. Singh said the expo will showcase the strength of India’s defence industry with the idea of ‘Make in India and make for the world’.

India achieved exports of defence items and technology worth a record Rs 13,000 crore in 2021-22 and this figure is likely to rise to Rs 17,000 crore in 2022-23, Defence Secretary Ajay Kumar said. “We are helping African countries by building their capacity using our defence industry. We are trying to find solutions to drug trafficking, piracy and other such issues in partnership. Overall, our cooperation in the Indian Ocean is being carried out with the Prime Minister’s vision of Security and Growth for All in the Region (SAGAR),” he said. The senior bureaucrat said “Invest for Defence’ is being organised for the first time at the DefExpo. “The aim is for our investors, financial institutions, venture capitals and private equity funds to know about investment opportunities in defence,” he said. Kumar said the ‘Bandhan’ event at the expo is about signing business agreements. In the last DefExpo held in Lucknow, 201 agreements were signed. This time, so far 451 agreements have been inked committing Rs 1.50 lakh crore investment, he added.

<https://www.firstpost.com/explainers/explained-what-is-the-pinaka-rocket-launcher-that-india-will-export-to-armenia-11473761.html>



*Tue, 18 Oct 2022*

## **Dr. Samir V Kamat, Chairman DRDO TT with Sameer Dixit**

DRDO is executing the project under the Technology Development Fund- under the Technology Development FUND, DRDO has a limit of Rs 50 crore.- DRDO to fund any new technology or any new product development, required by DRDO lab, or self requirements or even have large Export promotions- DRDO is working to reduce the time for awarding the project from 6 months to 3 months... This will increase the interest of various StartUps in this defence sector- defence is the large market with great export potential..in next 5-10 years india will move from a global importer to net exporter- we have a target of reaching of reaching 15000 crore by the end of this



yea- DRDO in defence Expo will showcase more than 400 products..various types like various types of missiles, radars, Pinaca rocket launcher , electronic warfare system- DRDO doesn't export itself but goes through an agency... We help our production agency to identify right market- many countries have shown interest for Brahmos- Many countries have shown interest in Pinaca, specially Armenia.- torpedoes and sonar have found interest in Vietnam and Myanmar- in next 5-10 years India is likely to become a leading player in military hardware exports- The Russia-Ukraine war has shown that today it's not about the large army or mighty resources to win a war...Now, There are disruptive technologies to transform the battlefield.

<https://www.timesnownews.com/videos/et-now/companies/dr-samir-v-kamat-chairman-drdo-tt-with-sameer-dixit-video-94950731>



*Tue, 18 Oct 2022*

## **India's Fifth-Generation Combat Aircraft Design to Get Done by December**

India's efforts to take to the skies with the next-generation Advanced Medium Combat Aircraft will take a massive leap in the next couple of months, with the DRDO's Aeronautical Development Agency informing that the critical design review of the AMCA is to be completed by December. Talking to the media persons at the DefExpo 2022, DRDO AMCA Project Director AK Ghosh said that the first prototype of the next-generation AMCA is expected to roll out in three years, and the first flight could take another year and a half. "This would be the first fifth-generation aircraft to go into the Indian inventory. So, in that aspect, it is special. Today, there are very few selected countries in the world that have developed fifth-generation aircraft. Our design process has been completed. We are going through an elaborate process; a lot of validation tests were done. We are currently in the process of a Critical Design Review. Once that is over, we are ready for development," Ghosh said.

Asked about the special features of the next-generation combat aircraft, the AMCA Project Director said: "The Gen (generation) of the aircraft is dependent on the time it rolls out. As time progresses, more and more new technologies and capabilities of aircraft are enhanced. Now the greatest thing about fifth-generation aircraft is stealth -- reducing radar cross-sections and other signatures. This is one of the design drivers. The airframe has been designed from the very beginning taking into account these aspects, whereas, in a fourth-generation aircraft, the airframe design is never done like that. As the fifth-generation aircraft started coming, they started borrowing certain concepts and integrating them with the concepts already developed. The AMCA is way more advanced compared to a 4.5 generation aircraft."

<https://newsable.asianetnews.com/video/india-defence/defexpo-2022-india-s-fifth-generation-combat-aircraft-design-to-get-done-by-december-rjy2p9>

# DRDO on Twitter

**DRDO** @DRDO\_India  
#DRDOUpdates | Visit the immersive experience zone in Hall No. 10 at #DefExpo22 to experience the augmented and virtual reality Aero, Land, and Naval products  
#PathtoPride  
@DefenceMinIndia  
@SpokespersonMoD

3:22 pm · 18 Oct 2022 · Twitter for iPhone

**DRDO** @DRDO\_India  
#DRDOUpdates | Here is the sneak peak of #DefExpo22 Visit DRDO Hall no. 10, HEC, Gandhinagar, Gujarat  
#PathtoPride  
@DefenceMinIndia  
@SpokespersonMoD

12:06 pm · 18 Oct 2022 · Twitter for iPhone

**DRDO** @DRDO\_India  
#DRDOUpdates | #DefExpo22 is featuring an Advance Cockpit Simulator of India's futuristic 5th-generation Advanced Medium Combat Aircraft (AMCA)  
#PathtoPride  
@DefenceMinIndia  
@SpokespersonMoD

5:36 pm · 18 Oct 2022 · Twitter for iPhone

## Defence News

### DefExpo 2022 News



**Press Information Bureau**  
Government of India

Ministry of Defence

*Tue, 18 Oct 2022 7:09 PM*

## **Raksha Mantri Exhorts Startups & Innovators to Come Up with New Ideas to Modernise the Armed Forces through Research & Innovation & Make India ‘Aatmanirbhar’**

**Rs 300 crore approved for 100 iDEX winners to develop products/technologies in 50 technological areas: Shri Rajnath Singh during Manthan, as part of DefExpo 2022**

**Calls for expanding the reach of iDEX to connect with more young ignited minds**

Raksha Mantri Shri Rajnath Singh has exhorted startups and innovators to come up with new ideas to modernise the Armed Forces through research & innovation and contribute in making the nation strong, prosperous & ‘Aatmanirbhar Bharat’ as envisioned by Prime Minister Shri Narendra Modi. Inaugurating Manthan 2022, an event organised by Innovations for Defence Excellence-Defence Innovation Organisation (iDEX-DIO), Ministry of Defence as part of 12th DefExpo, Shri Rajnath Singh said, a large number of startups and innovators are venturing into the defence sector as the Government has created a robust ecosystem for their as well as the nation’s growth.

The Raksha Mantri stated that more than Rs 300 crore have been approved for over 100 iDEX winners to develop products/technologies in more than 50 technological areas, stressing that the iDEX initiative has changed the perception that defence production is only for big businesses and industrialists. “In the last 7-8 years, there has been a change in the consciousness of the nation, with greater focus on solutions and goals. Earlier, it was difficult for the youth to contribute in various fields, but initiatives such as iDEX have empowered our young entrepreneurs and given them wings to fly. iDEX, a major initiative towards making India self-reliant, is a platform to provide economic support to entrepreneurs to develop state-of-the-art technologies,” he said.

Shri Rajnath Singh lauded iDEX for winning the Prime Minister's Award for Excellence in Public Administration last year and achieving new heights of success since its launch by the Prime Minister during DefExpo 2018. He added that iDEX is a popular initiative of the Ministry of Defence and has encouraged other ministries to adopt innovative schemes. Calling iDEX

‘innovation for innovation’, Shri Rajnath Singh emphasised that it has encouraged the entrepreneurial potential of the country, which was not able to emerge previously due to policy restrictions. He added that the initiative has helped aspiring start-ups and innovators to come forward and work with other stakeholders in the defence sector. Terming iDEX a movement to work for the nation, Shri Rajnath Singh said, the combined efforts of the government and innovators have created a positive ripple effect in the economy.

Elaborating further, the Raksha Mantri stated that iDEX creates direct and indirect employment opportunities and is useful for both job seekers and job creators. He highlighted that since the inception of iDEX, over 6,000 applications have been received in the last seven editions of Defence India Start-up Challenge and Open Challenge. He also shed light on iDEX Prime which was launched to provide Grant-in-Aid support worth up to Rs 10 crore.

On the growth of iDEX, Shri Rajnath Singh said that the platform now has a presence in Tier-II and Tier-III cities and is connecting with incubators across India. He called for focussing on the twin principles of disperse more and gather more to further expand the reach of the initiative to different parts of the country, with the aim to connect with more young ignited minds. He exuded confidence that iDEX will show the way forward for innovation in untouched areas and help in all-round development of the defence sector.

Manthan 2022 was aimed at bringing together start-ups, corporates, and military representatives, to ascertain the indigenous innovations leading the Indian defence sector into a bright future. It provided a unique opportunity for innovators associated with iDEX-DIO to showcase their capabilities, products and state-of-the-art technologies to the target audience of the industry leaders.

During the event, it was highlighted that the results for 75 challenges under DISC 7 (SPRINT) and PRIME (SPRINT) were announced in a record time of under two months; 118 winners across 75 challenges were announced by iDEX – DIO. The winners of DISC 6, DISC 7 SPRINT, OC 4 & OC 5 were felicitated.

The event also featured a panel discussion with industry stalwarts, and the leaders from Ministry of Defence and Armed Forces on the trending topic – ‘Harnessing Start-up Innovation in India for Space Technologies’. A static exhibition of a large array of start-ups supported by iDEX-DIO was displayed to the attendees.

Chief of Defence Staff General Anil Chauhan, Defence Secretary Dr Ajay Kumar, Chief of the Air Staff Air Chief Marshal VR Chaudhari, Chief of the Naval Staff Admiral R Hari Kumar, Chief of the Army Staff General Manoj Pande and other senior officials from the central & state government as well as industry representatives were present on the occasion.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1868930>



**Press Information Bureau  
Government of India**

**Ministry of Defence**

*Tue, 18 Oct 2022 6:35 PM*

## **Live Demonstrations, Showcasing the Operational Readiness & Scientific Prowess of the Armed Forces, Enthrall the Audience During DefExpo 2022**

**Raksha Mantri Shri Rajnath Singh & Gujarat Governor Shri Acharya Devvrat witness the display at Sabarmati River Front**

The Armed Forces contingent, comprising personnel from the Army, Navy, Air Force and Coast Guard, along with scientists from the Defence Research & Development Organisation (DRDO), are carrying out operational demonstrations at the Sabarmati River Front as part of DefExpo 2022 in Gandhinagar, Gujarat from October 18-22, 2022. Raksha Mantri Shri Rajnath Singh witnessed the daredevil acts on 18 October along with the Governor of Gujarat Shri Acharya Devvrat. The display was aimed at showcasing the operational readiness and scientific prowess of the defence forces to the people. The demonstration comprised the air, surface and sub-surface elements of the Armed Forces. The event started with an eye-catching combat free fall by personnel of Indian Army, Navy and Air Force.

It was followed by a daring display by the elite Marine Commandos (Marcos) of Indian Navy and Para (SF) Commandos of Indian Army skillfully slithering onto a boat from a helicopter, high speed run by Gemini boat and neutralisation of enemy post. The action, thereafter, again shifted to the sky with awe-inspiring Helobatics by Sarang Team and powered hang glider flying by Indian Air Force. The other activities undertaken were search and rescue demonstration by the Coast Guard, Small Team Insertion and Extraction and a scintillating offensive demo by the Indian Navy, continuity drill by Indian Airforce, Ro' Boatics display by the DRDO, and joint band display by the three Services. The programme culminated with the Tattoo ceremony by the drummers from the Indian Navy.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1868915>





**Press Information Bureau  
Government of India**

**Ministry of Defence**

*Tue, 18 Oct 2022 4:33 PM*

## **Raksha Mantri Holds Bilateral Meetings with his Rwandan, Armenian & Maldivian Counterparts on the Sidelines of DefExpo 2022**

Raksha Mantri Shri Rajnath Singh, on October 18, 2022, held bilateral meetings with his counterparts from Rwanda, Armenia and the Maldives who are in Gandhinagar, Gujarat to attend the 12th DefExpo. In the course of the meetings, the Raksha Mantri met with Minister of Defence, Rwanda Major General Albert Murasira; Minister of Defence of Armenia Mr Suren Papikyan and Minister of Defence of the Maldives Ms Mariya Ahmed Didi. The entire spectrum of defence cooperation was discussed during the meetings, with focus on identifying avenues to expand mutually beneficial collaboration with the respective countries.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1868852>



**Press Information Bureau  
Government of India**

**Ministry of Defence**

*Tue, 18 Oct 2022 3:48 PM*

## **India-Africa Defence Dialogue Held on the Sidelines of DefExpo 2022 in Gandhinagar, Gujarat; Paves Way for Strengthening of India-Africa Defence Relations**

**Gandhinagar Declaration adopted to enhance cooperation in the fields of  
training & military exercises**

**Raksha Mantri invites African nations to explore Indian defence equipment &  
technologies; says, robust Indian defence manufacturing ecosystem can fulfil  
international requirements**

**“India & Africa are important stakeholders in ensuring a safe & secure  
maritime environment, especially in Indian Ocean Region”**

**India does not believe in a hierarchical world order; Our international  
relations are guided by human equality & dignity: Shri Rajnath Singh**

**“UN Security Council needs to be more representative for a sustaining global  
order wherein international peace, security & order are respected  
universally”**

The India-Africa Defence Dialogue (IADD) was held on the sidelines of DefExpo 2022 in Gandhinagar, Gujarat on October 18, 2022. The dialogue successfully brought out various aspects of the IADD's theme 'Adopting Strategy for Synergizing and Strengthening Defence and Security Cooperation'. Delivering the keynote address, Raksha Mantri Shri Rajnath Singh defined the theme of IADD as the underlying commitment of India and African countries to explore new areas of convergence for defence engagements, including capacity building, training, cyber security, maritime security and counter terrorism. He termed India & African countries as important stakeholders in ensuring a safe and secure maritime environment, especially in the Indian Ocean Region. He pointed out that the two sides work together in many regional mechanisms, which foster inclusive and constructive collaboration in dealing with shared security concerns and address common challenges to peace and prosperity.

Emphasising that India & Africa share a multi-faceted defence and security cooperation relationship, Shri Rajnath Singh reiterated India's support to Africa to deal with challenges of conflict, terrorism and violent extremism. "India remains united with African countries in their quest for peace, security, stability, growth and prosperity. Our partnership with Africa is centered on the ten guiding principles articulated by Prime Minister Shri Narendra Modi during his address to Parliament of Uganda in 2018. He had clearly stated that Africa will be at the top of our priorities. We will continue to intensify and deepen our engagements with Africa. Apart from the goals of developmental, commercial and technological partnerships that India wants to forge with African nations, the statement also covered cooperation in strengthening capabilities in combating terrorism and extremism, supporting UN peacekeeping missions and work for open and free oceans," he said.

The Raksha Mantri described the Indo-African ties as multi-faceted covering economic, diplomatic and defence domains. He highlighted that India and Africa share a robust partnership, which is based on the cooperative framework of 'SAGAR' (Security and Growth for All in the Region), drawn upon the ancient ethos of 'Vasudhaiva Kutumbakam' (The World is One Family). Shri Rajnath Singh invited African countries to explore Indian defence equipment and technologies, stating that India has emerged as a leading defence exporter in recent years. "Peace, security and development are inter-related. Security is essential for enabling development in the region. We have created a robust public and private defence industry. A defence manufacturing ecosystem has been created in India which has the advantage of abundant technical manpower. Our defence industry can work with you to fulfil your defence requirements," he told his African counterparts.

The Raksha Mantri was of the view that India does not believe in a hierarchical world order where few countries are considered superior to others. He stated that India's international relations are guided by the essence of human equality and dignity, which is a part of its ancient ethos. "We do not believe in making or becoming a client or satellite state, and so, when we partner any nation, it is on the basis of sovereign equality and mutual respect. Forging relations comes naturally to India, as we work towards mutual economic development," he said. Shri Rajnath Singh also reaffirmed India's belief that the global world order deserves to be democratised further. Stating that the world's multilateral forums should be reflective of the change in global realities, he stressed on the need to make the UN Security Council more representative which will provide it with greater legitimacy, thereby sustaining a global order wherein the principles of international peace, security and order are respected universally.

The Raksha Mantri threw light on India's support to Africa during the COVID-19 pandemic. He lauded the Indian Navy for exhibiting excellent capability and service through the Mission SAGAR initiatives, which helped provide timely supply of emergency medical supplies, besides deploying medical expert teams for training and assistance. "India has been the first responder in providing Humanitarian Assistance and Disaster Relief to several African countries," he added. Shri Rajnath Singh also elaborated on the history of political, economic and cultural linkages between India and Africa, saying that the feeling of solidarity, mutual trust and confidence born in the days of colonialism continues to drive the cooperation. He added that India has been one of the strongest advocates of African decolonisation and has worked for the end of racist and apartheid regimes of the past.

Later, the Gandhinagar Declaration was adopted as an outcome document of IADD 2022. It proposes to enhance cooperation in the field of training in all areas of mutual interest by increasing training slots and deputation of training teams, empowerment and capability building of the defence forces of Africa, participation in exercises and humanitarian assistance during natural disasters. India offered fellowship for experts from African countries through Manohar Parrikar Institute for Defence Studies and Analysis. Fifty African countries, including 20 Defence Ministers, seven CDS/Service Chiefs and eight Permanent Secretaries participated in the Dialogue attesting to the high priority accorded to India-Africa engagement in defence and security. On the sidelines of the IADD, Raksha Mantri Shri Rajnath Singh and Raksha Rajya Mantri Shri Ajay Bhatt met with the visiting African Ministers where issues related to defence and bilateral relations were discussed.

The IADD, as a part of DefExpo 2022, showcased to the African nations the growing prowess of the domestic defence industry, which is one of the major drivers of the nation's resolve to achieve 'Make in India, Make for the World' as envisioned by the Prime Minister. This interaction is expected to help fulfilling the Defence requirements of our African partners as also achieving the objective of catering to our domestic requirements. A Special Cover on IADD and a book on 'India-Africa Defence Cooperation: Opportunities and Challenges' were released during the event. The IADD was institutionalised to be held biennially during successive DefExpos. It seeks to build on the existing defence partnerships between African countries & India and to explore new areas of convergence for mutual engagements including areas such as capacity building, training, cyber security, maritime security and counter-terrorism.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1868820>



*Wed, 19 Oct 2022*

## **India's International Ties Guided by Principles of Equality: Rajnath Singh**

India does not believe in a "hierarchical world order" where a few countries are considered superior to others, said defence minister Rajnath Singh on Tuesday, adding that the country's international relations are guided by the very essence of human equality and dignity, which is part of its ancient ethos. "We do not believe in making or becoming a client or satellite state, and so, when we partner any nation, it is on the basis of sovereign equality and mutual respect,"

Singh said, while speaking at the India-Africa Defence Dialogue (IADD-2022) held on the sidelines of DefExpo 2022 in Gandhinagar. “Forging relations comes naturally to India, as we work towards mutual economic development.”

The dialogue successfully brought out various aspects of the IADD’s theme ‘Adopting Strategy for Synergizing and Strengthening Defence and Security Cooperation’, said a statement by the defence ministry. The Union minister defined the theme of IADD as the underlying commitment of India and African countries to explore new areas of convergence for defence engagements, including capacity building, training, cyber security, maritime security and counter terrorism. “India is steadfast in its commitment to provide support in all arenas to African countries, for fulfilling their aspirations for peace and stability in the region,” Singh said. “African priorities are our priorities. We appreciate the efforts made by African countries towards building a common African peace and security architecture.” India and African countries were also “important stakeholders” in ensuring a safe and secure maritime environment, especially in the Indian Ocean Region, the minister said.

“I am sure that you also share our belief that the global world order deserves to be democratised further. The world’s multilateral forums should be reflective of the change in global realities,” he said, addressing representatives of over 50 African countries, including 20 defence ministers, seven chief of defence staff/service chiefs and eight permanent secretaries. The IADD was institutionalised to be held biennially during successive defence expos. The IADD — which was accorded a high priority to India-Africa engagement in defence and security — showcased to the African nations the growing prowess of the domestic defence industry, which is one of the major drivers of the nation’s resolve to achieve ‘Make in India, Make for the World’ as envisioned by Prime Minister Narendra Modi.

“This interaction is expected to help fulfilling the defence requirements of our African partners as also achieving the objective of catering to our domestic requirements,” the minister said. “India’s partnership with Africa is centered on the 10 guiding principles articulated by PM Narendra Modi during his address to the parliament of Uganda in 2018.” DefExpo 2022 is set to be the biggest defence exhibition till date, with at least 75 countries participating in it. The theme of the 12th edition of the event is ‘Path to Pride’ and PM Modi will take part in the inaugural ceremony on October 19.

“Over the years, India has contributed immensely to the United Nations peacekeeping operations in Africa. It is amongst the top three countries, contributing troops for UN peacekeeping, and has participated in most of the UN peacekeeping operations in the region,” Singh said. DefExpo 2022 is the first-ever edition exclusively for Indian companies. “We believe peace, security and development are inter-related. Security is essential for enabling development in the region,” Singh said. “As India continues to enhance its defence manufacturing capabilities, I invite African countries to explore Indian defence equipment and technologies.”

<https://www.hindustantimes.com/india-news/indias-international-ties-guided-by-principles-of-equality-rajnath-singh-101666118807209.html>

## **‘India Does Not Believe in Hierarchical World Order’: Rajnath Singh at IADD**

India does not believe in a hierarchical world order where a few countries are considered superior to others, defence minister Rajnath Singh said on Tuesday adding that the country’s international relations are guided by the very essence of human equality and dignity, which is a part of its ancient ethos. “We do not believe in making or becoming a client or satellite State, and so, when we partner any nation, it is on the basis of sovereign equality and mutual respect. Forging relations comes naturally to India, as we work towards mutual economic development,” Singh said while delivering the keynote address at the India-Africa Defence Dialogue (IADD) on the sidelines of DefExpo 2022 in Gujarat’s Gandhinagar on Tuesday.

IADD was institutionalised to be held biennially during successive DefExpos. Fifty African countries, including 20 defence ministers, seven chief of defence staff/service chiefs and eight permanent secretaries, participated in the dialogue attesting to the high priority accorded to India-Africa engagement in defence and security, according to a media statement by the defence ministry. The Union minister defined the theme of IADD, ‘Adopting Strategy for Synergizing and Strengthening Defence and Security Cooperation’, as the underlying commitment of India and African countries to explore new areas of convergence for defence engagements.

This include capacity building, training, cyber security, maritime security and counter terrorism. He termed India and African countries as important stakeholders in ensuring a safe and secure maritime environment, especially in the Indian Ocean Region. “I am sure that you also share our belief that the global world order deserves to be democratised further. The world’s multilateral forums should be reflective of the change in global realities,” he said.

IADD 2022 has showcased to the African nations the growing prowess of the domestic defence industry, which is one of the major drivers of the nation’s resolve to achieve ‘Make in India, Make for the World’ as envisioned by the Prime Minister, the defence minister said. This interaction is expected to help fulfilling the Defence requirements for our African partners as also achieving the objective of catering to our domestic requirements, he added. “India remains united with African countries in their quest for peace, security, stability, growth and prosperity. India’s partnership with Africa is centered on the 10 guiding principles articulated by Prime Minister Shri Narendra Modi during his address to the parliament of Uganda in 2018,” Rajnath Singh said.

“India and African countries are important stakeholders in ensuring a safe and secure maritime environment, especially in the Indian Ocean Region. We work together in many regional mechanisms... Over the years, India has contributed immensely to the United Nations peacekeeping operations in Africa. It is amongst the top three countries, contributing troops for UN peacekeeping, and has participated in most of the UN peacekeeping operations in the region,” Singh said in his address. “We believe peace, security and development are inter-related. Security is essential for enabling development in the region. As India continues to



enhance its defence manufacturing capabilities, I invite African countries to explore Indian defence equipment and technologies,” he added.

DefExpo 2022 is set to be the biggest defence exhibition till date with 75 countries participating in it. The 12th edition of the event, which has been organised on the theme ‘Path to Pride’, is also the first-ever edition exclusively for Indian companies. Prime Minister Narendra Modi will inaugurate the ceremony on Wednesday.

<https://www.hindustantimes.com/india-news/india-does-not-believe-in-hierarchical-world-order-rajnath-singh-at-iadd-101666103984938.html>



*Tue, 18 Oct 2022*

## **Gujarat All Set to Host India’s Biggest Defence Expo, PM Modi to Attend Inaugural Ceremony Tomorrow**

The biggest ever Defence Expo will start from today, Tuesday, in Gujarat’s Gandhinagar. The important feature of the Defence Expo is that it will be exclusive for Indian companies. The expo is scheduled from October 18 to 22. Prime Minister Narendra Modi will inaugurate the Defence Expo in Gandhinagar on Wednesday. The 12th edition of the event has been organised on the theme ‘Path to Pride’. Defence Minister Rajnath Singh addressed the curtain raiser press conference in Gandhinagar on October 17.

The Defence minister said that the Expo will “showcase the growing prowess of the domestic defence industry,” which is one of the major drivers of the nation’s resolve to achieve ‘Make in India, Make for the World’ as envisioned by the Prime Minister. “The biennial exhibition has been organised to support, showcase and forge partnerships for the Indian aerospace and defence manufacturing sectors with Indian as well as global customers to achieve the overall objective of catering to domestic requirements while fulfilling the needs of friendly foreign countries,” said Rajnath Singh. Rajnath Singh termed DefExpo 2022, exclusively for Indian companies, as a humble tribute of an ‘Aatmanirbhar Bharat’ to Mahatma Gandhi.

“DefExpo 2022 during ‘Amrit Kaal’ reflects India's resolve to be among the leading nations in the defence & aerospace sectors in the next 25 years. Under the dynamic leadership of our Prime Minister Shri Narendra Modi, the defence sector has made giant strides on ‘Path to Pride’ with passion and dedication to achieve the goal of ‘Aatmanirbharta’ in defence.” “We are swiftly moving towards becoming the pioneers in design, development and manufacturing at a global level. We are witnessing a transformational journey from being the largest defence importer to a net exporter. This DefExpo will further accelerate the pace of this journey,” he added.

The Defence Minister described 'Path to Pride' as not just a theme of DefExpo 2022, but a ‘Make in India, Make for the World’ vision of a ‘New India’. He called it a continuous process in which all the stakeholders - public and private sectors, MSMEs, academia, start-ups and Research & Development establishments – work together with the aim to provide innovative ideas and state-of-the-art products to the world. Organised in the largest-ever total area of over one lakh sqm (previous edition being 76,000 sqm) and with record registration of 1,340 companies, DefExpo

2022 is set to be the biggest defence exhibition till date. For the first time, the event has been organised in a four-venue format. The inaugural ceremony and seminars will be held at Mahatma Mandir Convention and Exhibition Centre; Exhibition at Helipad Exhibition Centre; Live demonstrations at Sabarmati River Front and ship visits for public at Porbandar. The first three days (October 18 to 20) will be business days, while the last two days (October 21 and 22) have been reserved for public.

### **DefExpo for Indian companies**

DefExpo 2022 will be the first-ever edition exclusively for Indian companies. Indian companies, Indian subsidiaries of Foreign OEMs, Division of company registered in India, Exhibitor having Joint Venture with an Indian company will be considered as Indian participants. The DefExpo 2022 will also mark the celebration of one year of the formation of the seven new defence companies, carved out of the erstwhile Ordnance Factory Board. All these companies will participate in DefExpo for the first time. 451 partnerships in terms of MoUs, Transfer of Technology agreements and product launches, almost double than the last edition, are expected during the Bandhan ceremony on October 20. The India Pavilion - a marquee pavilion of Department of Defence Production - will showcase the maturity of indigenous defence products, start-ups and latest technology, including Artificial Intelligence in defence, while presenting India's vision for 2047. In addition, there will be an exclusive Innovations for Defence Excellence (iDEX) Pavilion to showcase the prowess of the country's start-ups carrying out R&D and innovation in futuristic technologies.

For the first time, States/Union Territories (UTs) have been invited to set up pavilions at the event. The Raksha Mantri emphasised that with this new initiative, States/UTs will get an opportunity to participate in nation building by attracting investment and bolstering their potential of indigenous aerospace & defence manufacturing. Seventy-five countries will be participating in DefExpo 2022. The Raksha Mantri will host the second India-Africa Defence Dialogue (IADD) on October 18, while the Indian Ocean Region plus (IOR+) conclave will take place on October 19.

More than 53 African countries have been invited for IADD and 44 for IOR+ conclave. Several Defence Ministers from Africa and the IOR+ region have confirmed their participation. "IADD and IOR+ Conclave will be two very important events for promoting peace, security, prosperity & defence cooperation throughout the region and establishing new defence and industrial partnerships," Rajnath Singh said.

Live demonstrations showcasing the equipment and skill set of the Armed Forces, DPSUs and Industry will be held on all five days at Sabarmati River Front through active participation and synchronised efforts at all levels. The demonstrations include Sarang Acrobatic display, search & rescue, combat free fall and paratrooper activities. Ship visits have been organised for public by Indian Navy and Indian Coast at Porbandar. Another highlight of the event will be the biggest-ever drone-show by IIT Delhi start-up M/s Botlabs, which is an iDEX winner. Around 1,600 drones will light up the sky during the show on October 19, which will be a public event.

For the first time, 'Invest for Defence', the first ever marquee event of Ministry of Defence, targeted to promote investment in the defence sector in the country both by the Indian industry as well Foreign Original Equipment Manufacturers, will be held. It will be inaugurated by the defence minister on October 20. Rajnath Singh stated that the event will be an important

platform for eminent industrialists as they can contribute to the Government's efforts towards development of the defence industrial ecosystem in the country and become a part of the 'Make in India, Make for the World' resolve. He added that the event will promote the growth of MSMEs and start-ups in the country so that they can become participants in the global supply chain and generate new employment opportunities. Raksha Mantri Awards for Excellence in Defence Manufacturing is also being organised for the first time during DefExpo.

The seminars during the event will be held in a hybrid format, enabling the speakers as well as the audience to participate virtually. These will be streamed worldwide on the YouTube channel of Department of Defence Production. The seminars will be conducted by the leading Industry Associations, Think Tanks, Indian Defence Public Sector Entities, Service Headquarters (SHQs), Defence Research & Development Organisation (DRDO), Directorate General of Quality Assurance (DGQA), Ministry of Civil Aviation and State Government etc. These seminars will broadly cover topics such as Exports, Financing and Investments in Defence Start-ups & MSMEs, Emerging role of MSME in Aerospace manufacturing & MRO, Aatmanirbharta in Defence R&D, Futuristic Autonomous Technologies for Air Dominance etc. Leading international and national experts from Defence and Aerospace sector are the speakers for various seminars. Rajnath Singh stated that the seminars will be an important platform which will provide take-aways and action points for further development of the defence sector.

<https://www.indiatoday.in/india/story/gujarat-all-set-to-host-india-biggest-defence-expo-pm-modi-to-attend-inaugural-ceremony-tomorrow-2286814-2022-10-18>



*Tue, 18 Oct 2022*

## **PM Modi to Launch Defence Space Mission with 75 Innovative Challenges**

Prime Minister Narendra Modi is all set to launch Defence Space Mission, the next generation of national offense and defence, even as he inaugurates the DefExpo 22 at Gandhinagar in Gujarat on Wednesday. As India celebrates Azadi ka Amrit Mahotsav to mark the 75th year of Independence, 75 challenges, providing a holistic overview of stages of space mission, have been curated to boost the country's space-related defence preparedness within the 1967 Outer Space Treaty. The challenges will come alive on the Defence Ministry website, the moment PM Modi presses the button in Gandhinagar. The government has classified the challenges into five technology buckets - launch systems, satellite systems, communication and payload systems, ground systems, and software systems.

With the domain of warfare expanding beyond land, air, sea, and into space, the Defence Space Mission is being set up with multiple dual use technologies to provide fillip to the nascent space industry in India. It is learnt that this timely government encouragement could make India a front leader in second space age, characterized by rapid privatisation of space. India's development is highly dependent on space based technologies like NavIC, remote sensing, and space based internet. The Space Defence Mission will provide a boost to space based tech with multiple civilian and military applications. The proposed 75 challenges have been categorized into

various initiatives of the Department of Defence Production with some 35 open to more than 50 identified start-ups, 20 under Make 1 with partial government funding and remaining 20 under heavy government funding route.

While the DRDO has agreed in principle to hand-hold the industries by providing technical consultancy and access to facilities, the ISRO has also agreed to support the mission through tech support, procuring and inducting dual use technologies on productization. It is understood that the ownership, Minimum Order Quantity (MOQ), and projected development budget of each challenge was ascertained from the end users, like Indian Army, Indian Air Force, and Indian Navy, and based on inputs, the list of challenges to be launched has been finalized. There have been multiple rounds of meetings of all stakeholders conducted with the defence secretary and additional secretary of defence production. Defence minister Rajnath Singh has also reviewed the progress of the mission.

<https://www.hindustantimes.com/india-news/pm-narendra-modi-launches-defence-space-mission-takes-on-75-challenges-101666091036162.html>



*Tue, 18 Oct 2022*

## **HAL's New Jet and More...What to Expect at DefExpo 2022, India's Largest Defence Exhibition**

Speaking at the curtain raiser for the 12th edition of the event, Defence Minister Rajnath Singh said that the DefExpo 2022 will showcase the growing prowess of the domestic defence industry, which is one of the major drivers of the nation's resolve to achieve 'Make in India, Make for the World' as envisioned by the Prime Minister Narendra Modi. The defence minister further said, "India, which was until a few years back, considered the world's biggest (defence) importer is now standing in the queue of 25 top exporting countries." As we gear up for this five-day defence exhibition, here's all that we know about it and what to expect from it.

### **About DefExpo 2022**

DefExpo 2022 is the 12th such exhibition being held in India with the theme of 'Path to Pride'. Interestingly, DefExpo 2022 is the first ever exhibition exclusively for Indian companies. This year, DefExpo 2022 is being held in Gandhinagar's Helipad Exhibition Centre. DefExpo was traditionally held in Delhi until 2014 after which it has seen a string of new venues — Goa (2016), Chennai (2018) and Lucknow (2020). The venue was shifted to Goa when Manohar Parrikar was the defence minister, it moved to Chennai when Nirmala Sitharaman held the portfolio and it was staged in Lucknow with Rajnath Singh as the defence minister. Initially, DefExpo 22 was to be held in February. However, foreign exhibitors were reluctant to come to India in the aftermath of the COVID-19 pandemic.

In March, the exhibition was once again pushed back with A Bharat Bhushan Babu, the Indian ministry of defence's spokesperson saying, "Due to logistics problems being experienced by participants, the #DefExpo2022 proposed to be held in Gandhinagar, Gujarat from March 10th till March 14th is postponed." While the defence ministry gave no further explanation for the

delay, many experts believed it was owing to the Ukraine war, as Russia was among the leading speaker countries at the event. This year's event is expected to be the biggest such event with it being spread over one lakh square metres (the previous edition covered 76,000 square metres). DefExpo 2022 has also seen a record registration of 1,340 companies, and 75 other countries will also participate in the event.

The exhibition will also see two major conclaves — the India-Africa Defence Dialogue on 18 October and the Indian Ocean Region plus meeting of 44 countries. Defence secretary Ajay Kumar has been quoted as saying that India expects businesses worth Rs 1.5 lakh crore during DefExpo 2022 and as many as 451 agreements are expected to be signed during the five-day exhibition.

### **What to expect at DefExpo 2022**

The five-day exhibition will give Indian defence companies a chance to showcase their skills and capabilities. As per reports, there will be live demonstrations of equipment and skill sets of the Armed Forces, DPSUs and industry will be held through the event at Sabarmati riverfront, which will include a Sarang Acrobatic display, search and rescue, combat free fall, and paratrooper activities. According to a report in the *HinduBusinessLine*, a complete armoury solution, 9mm pistols and 5.56 mm assault rifles will also be showcased at the event.

Besides these, a special unveiling of the HAL's HTT-40 basic trainer will take place on 19 October. The HTT-40 is a basic trainer aircraft developed by the Hindustan Aeronautics Limited for the Indian Air Force. The HTT-40 basic trainer aircraft boasts of a speed of 450 km/hour, with a range of 1,000 kilometres. DefExpo 2022 is also where Larsen and Turbo will unveil its Future Infantry Fighting Vehicle (FICV). The 8X8 mobility vehicle are expected to become the mainstay of the mechanised forces. The Indian Army is keen to get 1,750 FICV, a project which is expected to cost around Rs 60,000 crore.

The Defence Research and Development Organisation (DRDO) will also display a wide range of around 430 products encompassing strategic and tactical weapon systems, defence equipment and technologies at DefExpo 2022. It has been reported that DRDO's display will include the Border Surveillance System (BOSS), Laser Fence System (LFS), BrahMos Air Version Missile, Advanced Towed Artillery Gun System (ATAGS), Wheeled Armoured Platform (WhAP), Prahar Missile, Rudram III Missile, Quick reaction Surface to Air Missile (QRSAM) and Medium Range Surface to Air Missile (MRSAM) among others.

<https://www.firstpost.com/explainers/prahar-missile-hals-new-jet-and-morewhat-to-expect-at-defexpo-2022-indias-largest-defence-exhibition-11468531.html>

# ThePrint

*Tue, 18 Oct 2022*

## **Ashok Leyland Presents Next Generation Capabilities for Indian Armed Forces**

Indian Army will soon have three advanced technology products and solutions including light bullet proof vehicle, Light General Service Vehicle and Tank T72 GB Assembly aggregates like

gear boxes. These were unveiled by Ashok Leyland, Hinduja Group, to choose from at the ongoing DefExpo 2022 at Gandhinagar, Gujarat. The show will officially be declared open in the presence of Prime Minister Narendra Modi on Wednesday (Oct 19, 2022).

### **What was unveiled?**

“JEET 4×4”, an all-new Light General Service Vehicle, which has been designed in house, developed and manufactured by Ashok Leyland was unveiled by Kargil War Hero and recipient of Maha Vir Chakra, Col Sonam Wangchuk. The Indian company which according to its official note is considered to be the largest supplier of logistics vehicles to the Indian Army. Other products and solutions were launched by Rajesh R, Vice President – Defence & Power Solutions Business, Ashok Leyland in the presence of senior officials of the Indian Army and the Ministry of Defence (MoD).

### **LBPV 4×4: Light Bullet Proof Vehicle 4×4**

This bullet proof vehicle is an adopted version of Lockheed Martin’s Common Vehicle Next Gen. And based on the information in the public domain this has been developed under Transfer of Technology. The company has described this vehicle as a versatile platform and has the capacity to carry around 6 combat soldiers. These soldiers can be sent in these vehicles in various contested areas for different tactical missions like Counter Insurgency/ Counter Terrorist operations, and also can be deployed for Patrolling, Reconnaissance, and Quick Reaction.

According to the company this has been designed for all terrain mobility and has armoured protection. Fitted with a weapon mount which will enable it to operate independently in the battle field, it comes with features like ABS, ride height management and all wheel independent suspension. The armoured vehicle has been totally indigenized and developed in India by Ashok Leyland. The first batch of these vehicles has already been delivered to the Indian Air Force (IAF) in 2021.

### **JEET 4×4: ‘JEET 4×4’**

The development of this vehicle is based on the proven platform This has been developed on a proven vehicle platform, and is suitable for the General Service (GS) role. According to the company this is equipped to perform optimally in plains, and desert terrain, hills, high altitude, and cross country. And also has all contemporary technology on board.

### **Tank T72 GB Assembly aggregates: Gear boxes**

The company which has been partnering with the Indian Army for fulfilling its logistics needs has been in the forefront of offering the next generation mobility solutions and new technology for the armed forces. The motto of Ashok Leyland is ‘Aap ki Jeet, Hamari Jeet’.

### **Tank T72 GB Assembly aggregates**

These are gear boxes for T-72 tanks and have been named ‘Ajeya’ in India. Soon the company has plans to start manufacturing the sub-assemblies and sub-components which includes the gear boxes for T-72.

### **Company to contribute significantly towards the “Atmanirbhar Bharat” initiative**

Dheeraj Hinduja, Executive Chairman, Ashok Leyland, has said that in the area of mobility it will provide end-to-end solutions. And will continue to evolve as trusted partners of the Indian armed forces. While unveiling new products and solutions, Rajesh R, Vice President – Defence



& Power Solutions Business, Ashok Leyland, said, “These advanced technology solutions developed by our in-house R&D would also address the growing demand for resource efficiency and optimization.”

<https://www.financialexpress.com/defence/ashok-leyland-presents-next-generation-capabilities-for-indian-armed-forces/2718562/lite/>



*Sun, 16 Oct 2022*

## **India Made HTT-40 to be Unveiled at DefExpo 2022, Deal for IAF Expected Soon**

The indigenous Basic Trainer Aircraft (HTT-40) manufactured by state-owned Hindustan Aeronautics Limited (HAL) will be unveiled at the India Pavilion on Wednesday (Oct 19, 2022) at the DefExpo 2022. The contract for 70 basic trainers for the Indian Air Force (IAF) is expected to be finalized soon, sources confirmed to Financial Express Online on the sidelines of the ongoing DefExpo 2022.

### **PM to unveil the aircraft**

The special unveiling will take place when Prime Minister Narendra Modi will inaugurate the India Pavilion.

### **More about HTT-40**

The HTT-40 for the Indian Air Force (IAF) will be powered by the TPE331-12 family of engines from Honeywell. There is an initial requirement of 70 aircraft for which negotiations are going on. This aircraft has been built with 70 percent indigenous Indian content and has met all the specifications laid down by the Indian Air Force (IAF). This aircraft has been built with the company funds (HAL's funds) of Rs 500 crore and will be powered by the Honeywell's engines. As has been reported earlier this aircraft is used for training fresh pilots before they are allowed to move to the more advanced Kiran, and then to the 'Hawk' Advanced Jet Trainer (AJT). After completing their training on the AJT, the trainees turn into pilots and are then posted to fighter squadrons of the IAF.

HTT-40 would also be used for basic flight training, aerobatics, instrument flying and close formation flights whereas its secondary roles would include navigation and night flying. According to officials, this aircraft is a supreme example of cutting-edge technology which has been designed to meet primary training requirements of the Indian defence services. And is equipped with the latest avionics, an air-conditioned cabin and ejection seats. It has unique features including running change-over of pilots, hot-refueling and short- turnaround time. And is set to be certified to international military aircraft training standards. All the tests required for certification were completed in record six years from the first flight.

<https://www.financialexpress.com/defence/india-made-htt-40-to-be-unveiled-at-defexpo-2022-deal-for-iaf-expected-soon/2717959/>

*Tue, 18 Oct 2022*

## **Boeing CH-47 Chinook's 200th Crown & Tail Cone is 'Made in India'**

Globally, Boeing's CH-47 Chinook which is one of the most advanced multi-mission, heavy-lift transport helicopters will be fitted with 'Made in India' Crown and Tail-cone. Manufactured by Tata Advanced Systems (TASL) at its facility based in Hyderabad and on Tuesday (Oct 18, 2022), the 200th Crown and Tail-cone for Boeing's CH-47 helicopter was handed over to the executives of Boeing Company during the ongoing DefExpo 2022 in Gandhinagar. These will now go to the Boeing's facility in Philadelphia where they will be integrated in the helicopters for its other global customers. So far, according to an official company note TASL has delivered the Crown and Tail-cone for CH-47 Chinook helicopters which are in service with the US Air Force, and other 18 international customers.

Back in 2017, TASL had also delivered the first Crown and Tail Cones parts for the 15 CH-47 Chinook Helicopters which are now in the fleet of Indian Air Force (IAF). Highlighting company's partnership with the US Boeing company for the CH-47 programme, Sukaran Singh, Managing Director and Chief Executive Officer, Tata Advanced Systems Limited, said, "TASL's world class quality and delivery mechanism has helped in forging a strong relationship with Boeing on both military and commercial platforms." And, "this reflects in the continued commitment to develop an aerospace and defence manufacturing ecosystem in India, he stated.

"Boeing's vision for India continues to be to bring the best of Boeing to India and take the best of India to the world," said Salil Gupte, President, Boeing India. And, he termed the partnership as a significant milestone and a testimony of the commitment of both sides to strengthen the manufacturing capabilities of the Indian aerospace and defence industry along with their strategic partners.

<https://www.financialexpress.com/defence/boeing-ch-47-chinooks-200th-crown-tail-cone-is-made-in-india/2718580/lite/>

*Wed, 19 Oct 2022*

## **Kalyani Group to Set Up World's Largest Artillery Manufacturing Facility in India**

Pune-headquartered Kalyani Group is in the process of setting up the world's largest artillery manufacturing facility in India having capacity to produce one gun per day. Confirming the development, Chairman of Kalyani Group, Baba Kalyani said at DefExpo22 at Gandhinagar that capital investment for the purpose has been done and now the company is looking at increasing

the volume. He claimed that Kalyani Group has the technology to produce lighter guns with same fire power as a heavy guns and such guns are in great demand globally.

Meanwhile, Bharat Forge Limited, flagship of the Kalyani group and a leading technology solutions provider, signed a Memorandum of Understanding (MOU) with General Atomics, US, a global leader in the research, design, and manufacture of a diverse portfolio of electromagnetic and advanced power and energy technologies. Under the terms of the MOU signed on Tuesday, Bharat Forge and General Atomics' Electromagnetic Systems Group (GA-EMS) will collaborate for the Lithium-Ion Battery System for naval platforms/submarines to address the requirements of the Indian Navy. The parties have also agreed to partner with each other in the area of permanent magnet motors.

“We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals. GA is a market leader for in-service Li-Ion Battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make in India solutions for Indian Navy and setting up a strong defence technology and manufacturing vertical within India,” said Baba Kalyani. Scott Forney, president of GA-EMS said that his company developed the Li-Ion battery system after 10 years of rigorous R&D and has now decided to work with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic.

<https://www.financialexpress.com/defence/font-size6-facesans-serif-stylecolor-rgb34-34-34-font-weight-400-white-space-normal-data-rich-text-format-boundarytruekalyani-group-to-set-up-worlds-largest-artillery-manufacturing-facility-in-indiafo/2718833/lite/>



मंगलवार, 18 अक्टूबर 2022

## स्वदेशी हथियारों की ताकत की प्रदर्शनी, चीन से सटी एलएसी पर की जा सकती है तैनाती

भारत चीन की नियंत्रण रेखा (LAC) पर टकराव के बीच भारत ने अपने स्वदेशी हथियारों की प्रदर्शनी डिफेंस एक्सपो-2022 (Defence Expo 2022) का आगाज किया है. गुजरात की राजधानी गांधीनगर (Gandhi Nagar) में एशिया की सबसे बड़ी रक्षा प्रदर्शनी में हथियारों और तकनीक का प्रदर्शन किया गया है. इस तकनीक का इस्तेमाल भविष्य में चीन से सटी एलएसी पर किया जा सकता है. गुजरात के गांधी नगर में भारत पैविलियन में प्रधानमंत्री नरेंद्र मोदी इस प्रदर्शनी का बुधवार (19 अक्टूबर) को उद्घाटन करेंगे. हालांकि इस हॉल में वैसे तो एक से एक स्वदेशी टैंक, तोप, मिसाइल और ड्रोन रखे हैं लेकिन इनमें सबसे खास बीएमपी सी-थू आर्मर है. पिछले कई दशक से भारतीय सेना रूस की मैकेनाइज्ड-इंफैंट्री सैनिकों की मूवमेंट के लिए इस्तेमाल करती आ रही थी. इन बीएमपी व्हीकल को भारत की ओएफबी यानि ऑर्डनेंस फैक्ट्री रूस की मदद से भारत में बनाती

आई थी लेकिन पूर्वी लद्दाख में चीन से टकराव के समय सेना को इसमें कुछ ऑपरेशनल परेशानियां सामने आई थी.

### **क्या थी समस्या?**

इसमें सबसे अहम समस्या ये थी कि इसमें अंदर बैठे कमांडर और ड्राइवर बाहर हो पा रही घटनाओं के ठीक से समझ नहीं पाते थे. ऐसे में युद्ध के मैदान में या सीमा पर दुश्मन की हरकत का पता नहीं चल पाता था. ऐसे में सेना ने चेन्नई के एक स्टार्टअप से संपर्क किया.

### **क्या मिला सोल्यूशन?**

चेन्नई के बिग बैंग बूम सोल्यूशन ने एक ऐसा चश्मा तैयार किया जिसमें एक खास तरह का कैमरा लगा था. ये कोई साधारण कैमरा नहीं बल्कि सी-थ्रू कैमरा है. इस कैमरे से बीएमपी में अंदर बैठकर रणभूमि का 350 डिग्री व्यू मिल सकता है. बिंग बैंग सोल्यूशन के चीफ अधिकारी गौरव शर्मा ने एबीपी से बातचीत में बताया कि ये सी-थ्रू सॉफ्टवेयर पूरी तरह से स्वदेशी है और इससे बाहर की 700 मीटर तक की पूरी तस्वीर सामने दिखाई पड़ती है, बल्कि कौन सा टैंक दुश्मन का है या अपनी सेना का है वो भी पता चल जाता है. इसके लिए कैमरे में आर्टिफिशियल इंटेलिजेंस यानि एआई का इस्तेमाल भी किया गया है. साथ ही कैमरे की क्वालिटी फुल एचडी है जिससे बाहर का वीडियो बेहद साफ दिखाई पड़ता है. इसके अलावा ये दिन-रात दोनों जगहों पर इस्तेमाल किया जा सकता है.

### **अशोक लीलैंड की 4x4 एलबीपीवी**

भारतीय सेना को अब तक 70 हजार मिलिट्री ट्रक सप्लाई कर चुकी भारत की अशोक लीलैंड कंपनी अब इंफैंट्री कॉम्बेट व्हीकल यानी आईसीवी बनाने की दिशा में कदम बढ़ा चुकी है. दरअसल, एलएसी पर चीन के साथ हुए टकराव के दौरान भारतीय सेना को लद्दाख के हाई ऑल्टिट्यूड यानि उंचाई वाले इलाकों में मूवमेंट में काफी मुश्किलों का सामना करना पड़ा था. चीन की पीएलए सेना अपने हमवी व्हीकल्स में बहुत तेजी से मूवमेंट करती है जबकि भारतीय सैनिक अपनी जिप्सी या फिर बीएमपी व्हीकल में करते थे. लेकिन इनमें हाई ऑल्टिट्यूड एरिया में मूवमेंट करने में थोड़ी परेशानी का सामना करना पड़ता था. ऐसे में भारतीय सेना ने स्वदेशी कंपनियों से हमवी स्टाइल की आईसीवी बनाने पर जोर दिया. अशोक लीलैंड ने एक आईसीवी व्हीकल बनाई है जिसे नाम दिया गया है लाइट बुलेट प्रूफ व्हीकल. अशोक लीलैंड की ये आर्मर्ड व्हीकल रेगिस्तान और उंचाई वाले इलाकों में अपने ट्रायल पूरे कर चुकी है.

### **हाई एल्टीट्यूड एरिया में आसान हो जाएगी पेट्रोलिंग**

अशोक लीलैंड (डिफेंस) के वाइस प्रेसिडेंट राजेश एस. ने एबीपी न्यूज को बताया कि इन गाड़ियों को बॉर्डर पर तैनात सैनिकों के लिए भी बनाया गया है ताकि इन गाड़ियों में सैनिक पेट्रोलिंग कर सकें. राजेश ने उम्मीद जताई कि जिस तरह भारतीय सेना को हाई ऑल्टिट्यूड में पेट्रोलिंग की जरूरत होती है ये उसके लिए बेहद कारगर है. क्योंकि एलबीपीवी में छह सैनिक आराम से बैठ सकते हैं और दुश्मन पर अंदर से बैठकर निशाना भी लगा सकते हैं.

### **क्या है इस व्हीकल की खासियत?**

अगर इस व्हीकल की खासियत के बारे में बात करें तो एक सैनिक सन-रूफ पर खड़ा होकर भी दुश्मनों को टारगेट करके गोली चला सकता है. इसके अलावा एलबीपीवी में इंजन आगे के बजाए बीच में रखा गया है ताकि सामने से वार होने पर इंजन को कोई नुकसान नहीं हो. चूंकि व्हीकल बुलेट प्रूफ है इसलिए इसपर गोली या बम से भी ज्यादा नुकसान नहीं हो सकता है. हाल ही में सेना की उधमपुर स्थित उत्तरी कमान ने पूर्वी लद्दाख में तैनात करने के लिए ऐसी ही आईसीवी को प्राइवेट कंपनियों से खरीदा था. अशोक लीलैंड के वाइस प्रेसीडेंट ने बताया कि एलबीपीवी को हाल ही में भारतीय वायुसेना ने खरीदा है. वायुसेना अपनी एयर-बेस की पेट्रोलिंग और आतंकियों से मुकालबा करने के लिए इन खास व्हीकल्स का इस्तेमाल करेगी.

### **एलएंडटी के लाइट टैंक**

पूर्वी लद्दाख में चीन से टकराव के दौरान जब भारतीय सेना ने मोबिलाइजेशन किया तो सबसे बड़ी चुनौती 14-15 हजार फीट की उंचाई पर टैंक्स को तैनात करना था. भारतीय सेना टी-90 और टी-72 जैसे हैवी टैंक का इस्तेमाल करती है. ऐसे में इन टैंक को दुनिया के सबसे उंचाई वाले दरों से पार करा कर चीन से सटी एलएसी पर तैनात करने में खासी दिक्कतें आई थी. यही वजह है कि एलएसी पर तैनात करने के लिए भारतीय सेना स्वदेशी लाइट-टैंक खरीदना चाहती है. भारतीय सेना ने इसके लिए प्रोजेक्ट जोरावर शुरू किया है.

### **'कर चुकी है 100 टैंकी की सप्लाई'**

भारतीय सेना के लिए लाइट टैंक की कमी पूरी करने के लिए एल एंड टी खुद हल्के टैंक डिजाइन कर रही है. एल एंड टी ने इससे पहले फिलीपींस के साथ मिलकर लाइट आर्मर्ड व्हीकल तैयार किया था लेकिन अब वह हल्के टैंक खुद डिजाइन कर बनाना भी चाहता है. एल एंड टी (डिफेंस) के एडवायजर जयंत डी पाटिल ने एबीपी न्यूज को बताया कि अगले साल जून तक उनका लाइट टैंक बनकर तैयार हो जाएगा. आपको बता दें कि एल एंड टी की के-9 वज्र तोप की अगले खेप के लिए भारतीय सेना जल्द ही ऑर्डर करने जा रही है. 100 तोपों की इस खेप को चीन से सटी एलएसी पर ही तैनात किया जाएगा. टैंक की तरह दिखने वाली ये तोप एल एंड टी ने दक्षिण कोरिया की मदद से भारत में ही तैयार की है. इस कंपनी से 100 तोप भारतीय सेना पहले ही खरीद चुकी है.

### **दुनिया को हथियारों की सप्लाई करेगा भारत**

हालांकि इन तोपों को रेगिस्तान यानि पाकिस्तान से सटी सीमा पर तैनात करने के लिए लिया गया था. लेकिन पूर्वी लद्दाख में चीन से तनाव बढ़ने पर इन तोपों में खास विंटर-किट लगाकर एलएसी पहुंचाया गया था. लेकिन जो नई के-9 तोप आएंगी उनमें पहले से विंटर-किट लगी होगी. जयंत पाटिल ने भरोसा दिलाया कि निकट भविष्य में भारतीय सैनिक न केवल स्वदेशी हथियारों से लैस होंगे बल्कि भारत मेड फॉर वर्ल्ड के तहत दुनिया को हथियारों की सप्लाई भी करेगा.

<https://www.abplive.com/news/india/defence-expo-2022-is-going-to-be-scheduled-in-gandhinagar-gujarat-pm-modi-will-inaugurate-ann-2240882>

*Tue, 18 Oct 2022*

## **UK to Strengthen Defence Collaboration with India at DefExpo 2022**

Defence industry organisations from India and the UK have come together to create a new Defence Industry Joint Working Group for more effective cooperation. The initiative is supported by the UK Government. The inaugural meeting of the UK-India Defence Industry Joint Working Group was held on the side-lines of DefExpo 2022 in Gandhinagar, Gujarat today. DefExpo will see representation from 20 UK defence companies. UK industry is already integrating Indian defence suppliers into their global supply chain, manufacturing defence equipment not just for India but for the world. The Joint Working Group is part of an ongoing initiative between the two countries to strengthen the defence and security partnership through industrial collaboration. The UK recently issued its first Open General Export License (OGEL) in the Indo-Pacific region to India, shortening delivery times for defence procurement.

The Royal Air Force (RAF) recently conducted a subject matter expertise exchange with Defence Research and Development Organisation (DRDO) during the visit of Eurofighter Typhoon, Voyager and A400 in New Delhi and also held joint-flying exercises with the Indian Air Force (IAF).

### **Alex Ellis, British High Commissioner to India, said:**

A stronger UK-India defence relationship is an essential element of the British and Indian governments' Comprehensive Strategic Partnership. The British Government and industry presence at DefExpo is further proof of this, as is our support for co-creation of next generation capabilities that will be fully owned by India. The UK supports Prime Minister Modi's ambitions of Make in India, Make for the World.

### **Mark Goldsack, Director, UK Defence and Security Exports, said:**

This is another step in the growing defence relations between the two countries, who are working to establish a portfolio of collaborative projects to support the development of new technologies and capabilities as agreed under the 2030 Roadmap. The UK sees it is in its own interest that India becomes self-reliant in its defence needs. The UK is a world leader in critical defence technologies such as jet engine developments and electric propulsion technology. We are keen to share this expertise with India supported by our respective industries.

### **Further information**

In the April 2022 joint statement, the UK and India have welcomed the finalisation of the Letter of Arrangement between the UK's Defence Science and Technology Laboratory and India's Defence Research and Development Organisation. The UK has offered advanced core technologies to India, capable of creating an indigenous, ITAR-free jet engine owned, manufactured and exported by India. India and the UK have established an Electric Propulsion Capability Partnership. The Joint Working Group will establish a strong partnership between our respective navies for development of Electric Propulsion capability for India.



The UK India 2030 Roadmap commits to partnership on India's indigenous combat air programmes, including LCA Mk-II and AMCA. Rolls Royce have established packaging, installation, marketing and services support for Rolls-Royce MT30 marine engines in India through partnership with HAL. Thales UK and BDL have signed an agreement to produce the next generation of VSHORAD missiles in India, supplying to both the UK and Indian Armies with a 'Made in India' Laser Beam Riding MANPAD System. MBDA UK have established live build capability for the Advanced Short Range Air-to-Air Missile (ASRAAM) in partnership with BDL.

<https://www.gov.uk/government/news/uk-to-strengthen-defence-collaboration-with-india-at-defexpo-2022>



*Tue, 18 Oct 2022*

## **India, UK to Create New Defence Industry Joint Working Group for Cooperation**

Defence industry organisations from India and the UK have come together to create a new Defence Industry Joint Working Group for more effective cooperation, the British High Commission said on Tuesday. In a statement, the High Commission said that the initiative is supported by the UK Government. The inaugural meeting of the UK-India Defence Industry Joint Working Group was held on the sidelines of DefExpo 2022 in Gandhinagar, Gujarat today. DefExpo will see representation from 20 UK defence companies. UK industry is already integrating Indian defence suppliers into their global supply chain, manufacturing defence equipment not just for India but for the world.

"The Joint Working Group is part of an ongoing initiative between the two countries to strengthen the defence and security partnership through industrial collaboration. The UK recently issued its first Open General Export License (OGEL) in the Indo-Pacific region to India, shortening delivery times for defence procurement," the British High Commission said. According to the statement, the Royal Air Force (RAF) recently conducted a subject matter expertise exchange with Defence Research and Development Organisation (DRDO) during the visit of Eurofighter Typhoon, Voyager and A400 in New Delhi and also held joint-flying exercises with the Indian Air Force (IAF).

Alex Ellis, British High Commissioner to India, said: "A stronger UK-India defence relationship is an essential element of the British and Indian governments' Comprehensive Strategic Partnership. The British Government and industry presence at DefExpo is further proof of this, as is our support for co-creation of next generation capabilities that will be fully owned by India. The UK supports Prime Minister Modi's ambitions of Make in India, Make for the World." Mark Goldsack, Director, UK Defence and Security Exports, said: "This is another step in the growing defence relations between the two countries, who are working to establish a portfolio of collaborative projects to support the development of new technologies and capabilities as agreed under the 2030 Roadmap."

"The UK sees it is in its own interest that India becomes self-reliant in its defence needs. The UK is a world leader in critical defence technologies such as jet engine developments and electric

propulsion technology. We are keen to share this expertise with India supported by our respective industries," Goldsack added.

<https://www.hindustantimes.com/india-news/india-uk-to-create-new-defence-industry-joint-working-group-for-cooperation-101666107377484.html>

## ThePrint

*Tue, 18 Oct 2022*

### **Armenia Eyes Akash Missile, Loitering Munitions from India Amid Conflict with Azerbaijan**

Amidst the ongoing tensions with its rival Azerbaijan, Armenia is eyeing more defence deals with India including possible procurement of drones and loitering munitions, besides mid-range surface-to-air missile (SAM) system like the Akash. Deeper defence cooperation was the focus of the bilateral meeting between Defence Minister Rajnath Singh and his Armenian counterpart Suren Papikyan held here on the sidelines of DefExpo 2022 in Gandhinagar Tuesday. The meeting comes just weeks after the two countries entered into a government-to-government contract for the sale of indigenous Pinaka multi-barrel rocket launchers, Konkurs anti-tank guides missile and a wide variety of ammunition including 80-mm mortars. Sources in the government remained tight-lipped about what transpired during the bilateral meeting with the Armenian minister but maintained that "defence cooperation was the focus".

The Centre has been wary of speaking on the defence cooperation with Armenia because of the ongoing tensions with Azerbaijan, a country that Turkey and Pakistan support. However, sources told that Armenia has been considering the possible procurement of the indigenous Akash air defence systems. It is also looking at arming itself with loitering munitions developed in India by private companies like Tata Advanced Systems Limited (TASL) and Solar Industries. As reported by ThePrint earlier, Azerbaijan is seen by many as part of an emerging axis with Turkey and Pakistan. It has used Turkish drones to fight the war against Armenia and is also in talks with Pakistan to buy the JF-17 fighter aircraft. The ex-Soviet republic bought four indigenous Swathi weapons locating radars in 2020 from India which was delivered in the backdrop of its conflict with Azerbaijan.

The sale of Pinaka rockets was the first international order for the indigenous system and will also be the first for Akash missile system if contracted for. India is looking at its highest-ever defence exports this fiscal with sales touching Rs 8,000 crore in the first six months as the Narendra Modi government tries to shed its import dependence in the critical sector.

The country's defence exports touched a record Rs 13,000 crore in 2021-2022 fiscal, which was nearly eight times of what it was in 2014. In 2020, the Modi government had set a target of Rs 35,000 crore (USD 5 billion) in the export of aerospace, and defence goods and services for the next five years. This is meant to be part of the Rs 1.75 lakh crore (USD 25 billion) turnover in defence manufacturing by 2025 that the government is aiming to achieve.

<https://theprint.in/defence/armenia-eyes-akash-missile-loitering-munitions-from-india-amid-conflict-with-azerbaijan/1173468/>

## AK-47 का बाप है रूस की AK-203 राइफल, बिजली की स्पीड से निकलती है गोली, जानें भारत में बनने वाली बंदूक की ताकत

साल 2022 के खत्म होते-होते रूस की एके-203 राइफल का उत्पादन भारत में शुरू हो जाएगा। भारत-रूस संयुक्त उपक्रम की ओर से उत्तर प्रदेश के अमेठी जिले के कोरवा ऑर्डिनेंस फैक्ट्री में रूसी मूल की कलाशिकोव असॉल्ट राइफल का उत्पादन शुरू होने की उम्मीद है। रूस की सरकारी रक्षा इकाई रोसोबोरोनएक्सपोर्ट के महानिदेशक अलेक्सांद्र मिखेव ने इसकी जानकारी दी है। पिछले साल जब रूसी राष्ट्रपति व्लादिमीर पुतिन भारत आए थे तब भारत और रूस के बीच इस राइफल को लेकर 5100 करोड़ रुपए का रक्षा समझौता हुआ था। एके-203 दुनिया की सबसे घातक और कामयाब राइफल एके-47 का आधुनिक रूप है। एके-203 का वजन सिर्फ 4 किग्रा होता है जिससे एक से दूसरी जगह लेकर जाना आसान होता है। यह बंदूक भारत के 'रक्षा भविष्य' के लिए बेहद महत्वपूर्ण साबित हो सकती है।

### इंसास की जगह लेगी एके-203

एके-203 राइफल को पहले एके-103एम कहते थे लेकिन बाद में इसका नाम एके-203 रख दिया गया। इसकी मैग्जीन में 30 गोलियां आ सकती हैं जिनसे यह 400 मीटर के दायरे में पूरी ताकत से वार कर सकती है। एके-203 वर्तमान में इस्तेमाल की जाने वाली इंसास राइफल की तुलना में हल्की और छोटी होती है। खास बात यह कि इसमें पिकेटिनी रेल भी लगा हुआ है जिसमें नाइट विजन या दूर निशाना लगाने के लिए स्कोप को फिट किया जा सकता है। भारत और रूस के बीच समझौते के तहत भारतीय सेना और अर्द्धसैनिक बलों के लिए 6 लाख राइफलें बनाई जाएंगी। भारतीय सेना फिलहाल इंसास राइफल का इस्तेमाल कर रही है जिसे 1990 में सेना में शामिल किया गया था। इंसास का निर्माण DRDO ने किया था।

## हर मौसम में एक जैसी परफॉर्मेंस

वर्तमान में इस्तेमाल की जाने वाली इंसास के साथ 5.56×45mm कैलिबर की गोलियों का इस्तेमाल किया जाता है। वहीं एके-203 7.62×39mm की गोलियों का इस्तेमाल करती है। यह राइफल एक सेकेंड में 10 गोलियां दाग सकती है। इसके साथ इंसास जैसा जाम होने का भी खतरा नहीं है। इस राइफल को ऑटोमेटिक और सेमी ऑटोमेटिक दोनों तरह से इस्तेमाल किया जा सकता है। दुनिया एके सीरीज पर बहुत भरोसा करती है क्योंकि आज 50 से ज्यादा देश एके-47 का इस्तेमाल कर रहे हैं। एके-47 के बाद देशों की पहली पसंद एके-203 बन रही है जिसका निर्माण न सिर्फ भारत में होने जा रहा है बल्कि 30 से ज्यादा देश इसे बनाने का लाइसेंस ले चुके हैं। इस बंदूक का होल्ड, एक्युरेसी पुरानी पीढ़ी के हथियारों से बेहतर है जिस वजह से इसकी मांग तेजी से बढ़ रही है।

## एके सीरीज की सबसे सफल राइफल AK-47

अब एके सीरीज की सबसे सफल राइफल एके-47 के बारे में कुछ बातें जान लेते हैं। एके-47 यानी Automatic Kalashnikov-47, इस रूसी राइफल का अविष्कार मिखाइल कलाशिकोव ने 1947 में किया था जिस वजह से इसका नाम AK-47 रखा गया। यह राइफल वजन में बेहद हल्की होती है और फुल लोड होने के बाद भी सिर्फ 4 किग्रा की होती है। एक मिनट में इससे 600 राउंड गोलियां दागी जा सकती हैं। एक बार में एके-47 में 30 गोलियां भर सकते हैं। इसका रखरखाव बेहद आसान और सस्ता होता है और इसे चलाने के लिए किसी खास ट्रेनिंग की जरूरत नहीं होती। यही कारण है कि दुनिया के ज्यादातर आतंकवादी एके-47 का इस्तेमाल करते हैं और यह सबसे ज्यादा अवैध रूप से बिकने वाली राइफल भी है।

## 700 मीटर प्रति सेकेंड की रफ्तार से निकलती है गोली

भारत के अलावा इजरायल, चीन, मिस्र और नाइजीरिया जैसे देशों में एके-47 राइफल बनती हैं। इनमें सबसे ज्यादा उत्पादन चीन में होता है। हल्की और छोटी होने के बावजूद यह बेहद शक्तिशाली और खतरनाक होती है। इससे निकली गोली हल्की दीवारों और धातु की चादरों को भी पार कर सकती है। एके-47 से निकलने वाली गोली की रफ्तार 700 मीटर प्रति सेकेंड होती है। सिर्फ आठ पुर्जों से बनी इस राइफल को मात्र 1 मिनट में जोड़ा जा सकता है। भारत में बनने वाली एके-203 राइफल इसी एके-47 का नया और एडवांस रूप होगा।

<https://navbharattimes.indiatimes.com/world/rest-of-europe/russian-ak-203-rifle-production-to-be-start-in-amethi-advance-version-of-ak-47-assault-rifle/articleshow/94935932.cms?story=4>

## **Adani Defence Systems to Acquire Air Works at an Enterprise Value of Rs. 400 cr**

Adani Defence Systems & Technologies on Tuesday signed a definitive agreement to acquire Air Works, India's biggest and highly diversified independent MRO with the largest pan-India network presence across 27 cities. The Adani Group-backed company will acquire Air Works at an enterprise value of Rs. 400 crore. The announcement was intimated by Adani Enterprises in its exchange filing. Ashish Rajvanshi, CEO of Adani Defence & Aerospace said, "Air Works has impeccable proven capabilities and over its 70-year aviation legacy has successfully delivered several India-first and industry-first projects. Combine this with the Adani Group's capabilities and what we get is an entity that truly represents what an Atmanirbhar Bharat in a critical sector should look like."

Further, D Anand Bhaskar, MD & CEO, of Air Works Group said, "India has the potential to become the MRO hub for the region across defence and civil aircrafts. It is a wonderful opportunity for Air Works and its employees to be subsumed under Adani Defence & Aerospace platform. The government's policy measures and initiatives including convergence of civil and defence MRO would create economies of scale and huge employment opportunities." According to Rajvanshi, given India's growth trajectory and the Government's focus to network the nation through a massive mesh of air connectivity, it is inevitable that the primary growth of India's airline and airport sector lies ahead of it.

Therefore, the Adani Defence CEO added that the Maintenance, Repair, and Overhaul sector has a crucial role to play in both, the defence and civilian aerospace sector. Add to this the ongoing modernisation program to make India a large market for defence aircrafts, and what emerges is one of the most exciting, comprehensive, at scale and digital MRO services within the boundaries of the nation. Air Works is the oldest MRO in India, and has developed extensive operational capabilities within the country for key defence and aerospace platforms. From the first P-8I aircraft Phase 32 checks to Phase 48 checks and MRO on the landing gear of the Indian Air Force's 737 VVIP aircraft, Air Works undertakes base maintenance for ATR 42/72, A320 and B737 fleet of aircraft from its EASA and DGCA-certified facilities at Mumbai, Delhi, Hosur, and Kochi.

Air Works has 6 maintenance bays and over 900 maintenance experts. Air Works and Boeing are currently undertaking heavy maintenance checks on three P-8I long-range maritime patrol and anti-submarine warfare aircraft operated by the Indian Navy (IN) at Air Works, Hosur.

<https://www.livemint.com/companies/news/adani-defence-systems-to-acquire-air-works-at-an-enterprise-value-of-rs-400-cr-11666105143770.html>

## **Why the Arihant Missile Test was Critical for India**

*By Arun Prakash*

Reports of the successful test of a submarine-launched ballistic missile by INS Arihant, India's sole operational nuclear-powered, ballistic missile submarine (SSBN), on October 14, should convey an uplifting message of reassurance to the public. Although INS Arihant undertook its first, notional, "deterrent patrol" in 2018, impressive visuals of the missile launch demonstrate Arihant's fully-operational status as well as its crew's proficiency. This drill would also have tested and proven long-range underwater communications as well as command-and-control procedures of the Strategic Forces Command. India's nuclear deterrent aims to "prevent a nuclear attack on Indian territory or Indian forces, anywhere," and to threaten the attacker with "massive retaliation designed to inflict unacceptable damage."

As a nation committed to "no first use", it is of critical importance that the adversary is never in doubt about the credibility of India's nuclear deterrent. This calls for a deterrent capable of surviving a surprise nuclear attack and undertaking retaliation. Given that land-based missiles (static and mobile) and air bases are exposed to enemy reconnaissance, and will be targets of pre-emptive attacks, the best way to invest the nuclear deterrent with immunity is to send it underwater on an SSBN. For this reason, India has resolutely pursued, with former Soviet and now Russian help, the indigenous design and construction of a series of SSBNs. Reports about the recent test state that the missile was "tested to a predetermined range and impacted the target area in the Bay of Bengal, with very high accuracy".

While withholding any indication of the missile's actual capability may be a prudent security measure, it is more than likely that this test was closely monitored via technical means — by friends and foes — and the missile's performance parameters were recorded. Moreover, the recent presence in the neighbourhood of Chinese satellite and spacetracking ship Yuan Wang-5 indicated its snooping intent. The role of an SSBN is to pose a nuclear threat from underwater to two types of adversary targets: Counter-value (population centres) and counter-force (military nodes). To this end, an SSBN is positioned in a safe patrol area that is remote from shipping traffic but within the missile range of its pre-designated targets. It appears likely that India's SSBNs will operate from sanctuaries or "bastions" in the deep waters of the Bay of Bengal, where they can remain under the protective umbrella of our naval units.

From the middle of the Bay of Bengal, Karachi is about 2,500 km, while Beijing and Shanghai are over 4,000 km. Therefore, to threaten counter-value or counter-force targets deep inside China or Pakistan from a safe "bastion," India needs a submarine-launched ballistic missile of "inter-continental range," ie, over 6,000 km. The missile, last reported as being carried by INS Arihant, was the K-15, whose range falls below 1,000 km. While land-based missiles such as the Agni V and VI, with ranges above 5,500 and 8,000 km, respectively, are reportedly under development, the challenge for our scientists is to design powerful but compact rocket motors so that a battery of 12-16 missiles can fit within the hull of INS Arihant class of SSBN. However,



should the dimensions of this new missile call for a larger hull, the resultant size and displacement of the vessel will demand a unique design and a more powerful nuclear reactor for propulsion — challenges that are being tackled by our scientists and designers. Prolonged deterrent patrols and continuous usage of a submarine’s nuclear reactor would call for refuelling with fresh uranium rods every few years. Refuelling entails cutting open the submarine and virtually rebuilding it, thus, taking it out of action for a year or more. India will, therefore, require an inventory of three-four SSBNs to maintain one on deterrent patrol off each seaboard. Protection of India’s SSBN force would call for another type of vessel, the “nuclear attack submarine” (SSN), which also has immense utility in the anti-shipping and land attack roles. Thus, from a 50-year perspective, India would be looking at a nuclear submarine force of 8-12 SSBNs and SSNs.

Apart from its strategic significance, the nuclear submarine programme is an excellent manifestation of Prime Minister Narendra Modi’s atmanirbharta (self-reliance) vision. Many private-sector companies have contributed to this programme, designing and fabricating systems for INS Arihant and follow-on vessels. This Indian Navy-managed Defence Research and Development Organisation project has also spawned an enormous indigenization process; many micro, small and medium enterprises have contributed components manufactured to high precision and reliability specifications. India’s nuclear triad and accessories will cost the nation thousands of crores of rupees in the decades ahead. However, our dilemmas demonstrate that a large military and a nuclear arsenal, by themselves, can assure neither India’s security nor bequeath “great power” status. Therefore, unless underpinned by a grand strategic vision that integrates its military strength and nuclear triad with other elements of comprehensive national power to generate a compelling national security strategy, we may be wasting precious national resources.

<https://www.hindustantimes.com/opinion/why-the-arihant-missile-test-was-crucial-for-india-101666100427824.html>

## Business Standard

*Tue, 18 Oct 2022*

### **Rolls-Royce Pursues 'Atmanirbhar Bharat' in All Three Dimensions**

As China’s rising aggression in the Asia-Pacific drives strategic convergence between India, the US and the UK, British high-technology firm Rolls-Royce sees strategy, politics and technology coming together to create a compelling rationale for major investments in India. Rolls-Royce executives at the DefExpo 22 defence exhibition point out that they are the only global original equipment manufacturer (OEM) looking to engage with India’s military in the “highest-technology” realm of engine design in three dimensions — air, sea and land. In the realm of aircraft carrier propulsion, Rolls-Royce is pitching its MT30 turbines, which provide all-electric drive to both the Royal Navy’s Queen Elizabeth-class aircraft carriers.

With New Delhi ruling out nuclear propulsion for India’s second indigenous aircraft carrier (IAC-2), which is still in the design phase, Rolls-Royce executives point out that the MT30 has

already proven its capability in driving the 65,000-tonne HMS Queen Elizabeth. The IAC-2 is also being conceived as a 65,000-tonne carrier. Rolls-Royce says the MT30 is “designed with approximately 50 per cent fewer parts than other aero-derived gas turbines in its class... and can be configured in either mechanical, electrical or hybrid drive configurations.” Rolls-Royce is also offering India the WR-21 turbine, which propels the Royal Navy’s Type 45 Daring-class destroyers. However, the Indian Navy has so far built its destroyers and frigates with Russian and Ukrainian turbines, and with the General Electric (GE) LM2500 gas turbine.

The WR-21 is more than a match for the LM2500, say Rolls-Royce engineers. But the Type 45 destroyers also have a worrying record of breaking down mid-ocean, most recently earlier this year when a destroyer that was accompanying HMS Queen Elizabeth as part of her battle group had to pull into port for repairs. “We must be sure that India understands the uniqueness of these offerings, since they include not just a transfer of capability and manufacture but also of the know-how and know-why in the WR-21,” says Alex Zino, who handles business development and future programmes for Rolls-Royce.

### **Aero engines**

Rolls-Royce has a long history of partnering India in manufacturing and operating aero engines. Currently, some 750 Rolls-Royce engines power aircraft in service with the IAF, the Indian Navy and Hindustan Aeronautics Limited (HAL). These include: Adour engines, which power the Hawk advanced jet trainer and the Jaguar deep penetration strike aircraft; the Gnome engine that powers the navy’s Sea King helicopters; the Dart, which powers the air force’s HS 748 Avro aircraft; and the AE 2100 and AE 3007 engines that power the C-130J Super Hercules and the Embraer’s ERJ145 airborne early warning (AEW) aircraft respectively.

Many of these aero engines were built under licence in HAL’s engine division in Bengaluru. While Rolls-Royce’s marine engines are fewer in number, they are “aero-derivative” engines, which means they were originally aero engines that had been re-engineered into marine engines. For Rolls-Royce, the big prize in India’s aero engines field is the opportunity to design and develop a power pack for the Advanced Medium Combat Aircraft, which will form the backbone of the IAF’s fifth-generation fighter fleet starting a decade from now. “This is about co-creating the intellectual property that goes into a brand-new fighter engine. From our perspective, this will be a greenfield design and will take a decade to create,” said Zino.

### **Light tank engine**

The Defence Research and Development Organisation (DRDO) is designing and developing a new light tank to prevent any further instances of Indian troops being outgunned in places such as Eastern Ladakh, where the Indian Army found itself confronting Chinese armour. While the Indian side did a creditable job in moving up its T-72 tanks to the Chushul area, that required long road moves that wore down Indian tanks as well as Indian roads. Army planners gave the go-ahead for the DRDO to develop a 35-40 tonne light tank, and the DRDO opted for a MTU MB 838 engine that generates 1,400 horsepower. German engine-maker MTU has been acquired by Rolls-Royce Power Systems.

[https://www.business-standard.com/article/companies/rolls-royce-pursues-atmanirbhar-bharat-in-all-three-dimensions-122101801241\\_1.html](https://www.business-standard.com/article/companies/rolls-royce-pursues-atmanirbhar-bharat-in-all-three-dimensions-122101801241_1.html)

## **'Confident Pak can Secure Nukes': State Dept After Biden's 'Dangerous' Comment**

Days after United States President Joe Biden caught the world's attention with his "one of the most dangerous nations" comment on Pakistan, the US Department of State made a statement which seemed to be contradicting the commander-in-chief's remark. A "secure and prosperous" Pakistan has always been viewed by the US as critical to its interests, State Department's Deputy Spokesperson Vedant Patel was quoted as saying at a briefing by news agency PTI. "(The US is) confident of Pakistan's commitment and its ability to secure its nuclear assets," he said at the news conference. This comes after Biden's comments had led to a pushback from the country's government in several ways. It first prompted the ruling government to summon the US envoy. Then, Pakistan Prime Minister Shehbaz Sharif issued a strong statement, calling the US president's comments "factually incorrect and misleading".

"Let me reiterate unequivocally: Pakistan is a responsible nuclear state and we are proud that our nuclear assets have the best safeguards as per IAEA (International Atomic Energy Agency) requirements," Sharif wrote in a tweet. "We take these safety measures with the utmost seriousness. Let no one have any doubts," he further added. Last week, Biden was talking about Russia and China and other matters of global concern when he said: "...And what I think is maybe one of the most dangerous nations in the world: Pakistan. Nuclear weapons without any cohesion." "So, folks, there's a lot going on. A lot going on. But there's also enormous opportunities for the United States to change the dynamic in the second quarter of the 21st century," he further said.

<https://www.hindustantimes.com/world-news/confident-pak-can-secure-nukes-a-u-turn-after-biden-s-most-dangerous-remark-101666055452799.html>

## Science & Technology News



Press Information Bureau  
Government of India

Ministry of Science & Technology

*Tue, 18 Oct 2022 5:32 PM*

### **First 11 Awardees of WISER Programme to Promote Participation of Women in International R&D and Industry Projects Facilitated**

The first 11 awardees of the Women Involvement in Science and Engineering Research (WISER) programme were felicitated in the presence of the German Ambassador to India & Bhutan and the Vice Chancellor of the Jawaharlal Nehru University today. The ten (10) women researchers from India and one (1) from Germany holding regular/long-term research positions in academia, research institutions, or industry selected under the WISER-2022 programme will receive financial assistance to participate and collaborate in ongoing R&D & industry projects. They will not need to apply for fresh project grants in partnering countries.

The German Ambassador to India & Bhutan, H.E. Dr. Philipp Ackermann, appreciated the women researchers' efforts in niche science & technology areas and said that their contribution would strengthen Indo-German collaborations in S&T.



Initiation of a programme like WISER would motivate women researchers to excel and take up leadership positions in Science & Technology,” said Vice Chancellor of Jawaharlal Nehru University Prof. Santishree Dhulipudi Pandit. Adviser & Head, International Cooperation, DST & Co-Chair, IGSTC Governing Body Shri S.K. Varshney, said that it would help enhance parity for gender equality and strengthen excellence in Science & Technology.

The programme, with a three-year tenure period or till completion of the project, is open to all the areas of STEM and allows the researchers to work on international projects while continuing to stay in India. It will cover one visit per year for a short stay up to 1 month.

Women researchers are still underrepresented in Science, Technology, Engineering, and Mathematics (STEM) for various reasons. The situation has improved to a certain extent over the last few years, but an imbalance remains, and IGSTC, a bilateral institution established by the Department of Science and Technology (DST), Government of India, and the Federal Ministry of Education and Research (BMBF), Government of Germany to promote Science and Technology collaboration, is trying to address the imbalance. IGSTC Women Involvement in Science and Engineering Research (WISER) intends to build scientific capacity, retain and promote women researchers in India/Germany by utilising complementary expertise in science, technology, innovation, and research partnerships.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1868885>



*Mon, 17 Oct 2022*

## **Why has ISRO Named GSLV Mk-III as LVM-3 for OneWeb Launch?**

The Indian Space Research Organisation (Isro) is in the final phase of preparation to launch 36 satellites as part of a broadband constellation by OneWeb into space. The 36 satellites will be launched into space on a Geosynchronous Satellite Launch Vehicle (GSLV) Mk-III. However, there is a small change. Isro has redesignated the launch vehicle as LVM-3 from GSLV Mk-III. While the practice of changing the name of the launcher is not uncommon, it is new for India and LVM-3 stands for Launch Vehicle Mark 3.

The LVM-3 has been moved to the pad and will launch from the Satish Dhawan Space Centre in Sriharikota on October 23 at 12:07 am with the customer payloads to deploy them in Low Earth Orbit. It is the first dedicated commercial launch for LVM3, which is being conducted on demand through NewSpace India Limited (NSIL). The sole reason behind changing the name of the vehicle from GSLV to LVM is that the rocket will not deploy the satellites in the geosynchronous orbit. The OneWeb satellites operate in Low Earth orbit (LEO) at an altitude of 1,200 kilometers.

The geosynchronous orbit, on the other hand, is located 35,786 kilometers above Earth's equator. It is a prograde, low inclination orbit about Earth having a period of 23 hours 56 minutes 4 seconds. A spacecraft in geosynchronous orbit appears to remain above Earth at a constant longitude, although it may seem to wander north and south. The GSLV-Mk-III has been

configured to deploy the satellites in the LEO with two solid strap-on boosters and a liquid core stage that have been integrated at the second launch pad. The LVM-3 is 43.5 meters in height with a 4-meter diameter and is capable of lifting off with 640 tonnes of payload.

The cryogenic stage of the vehicle allows it to place heavy payloads into Low Earth Orbits of 600 km altitude, while it can also place four-tonne class satellites of the GSAT series into Geosynchronous Transfer Orbits. The L110 liquid stage is powered by two Vikas engines designed and developed at the Liquid Propulsion Systems Centre. This is not the first time that Isro has redesignated the vehicle to LVM-3. In 2014, the GSLV-Mk-III was also named LVM-3 as it launched with the Crew module Atmospheric Reentry Experiment (CARE) into space.

<https://www.indiatoday.in/science/story/isro-oneweb-launch-gslv-mk-iii-lvm-3-rocket-2286187-2022-10-17>



© The news items are selected by Defence Science Library, DESIDOC from Print Newspapers and Authentic Online News Resources (mainly on DRDO, Defence and S&T)