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

**Ministry of Defence**

*Fri, 29 Sep 2023*

## **Raksha Rajya Mantri Inaugurates DRDO Conference on 'Millets for Military Ration & Specific Nutritional Requirements' in Mysuru**

A two-day National Conference on 'Millets for Military Ration and Specific Nutritional Requirements' was inaugurated by Raksha Rajya Mantri Shri Ajay Bhatt in Mysuru, Karnataka on September 29, 2023. The conference has been organised by Defence Food Research Laboratory (DFRL), the Mysuru-based laboratory of Defence Research and Development Organisation (DRDO).

The conference will deliberate on the scientific facts for the adoption of millets-based food for the Services, exploring millets for sustainable agro-processing practices at terrains of troop deployment; identifying and resolving the challenges in millet processing; preservation and storage for sustained nutritional & food security. The conference will also identify innovative ways to integrate millets into the diet of the Services for improved health & endurance and facilitate discussion on millets-based enterprises among research organisations, government agencies, policy makers & supply chain managers.

In his address, the Raksha Rajya Mantri stressed the importance of millets for health and stated that the DFRL is not only spreading awareness among the public, it is also working towards ensuring the supply of millets to the Armed Forces personnel to meet their nutritional requirements.

Secretary, Department of Defence R&D and Chairman DRDO Dr Samir V Kamat appreciated the fact that the Services are looking to adopt millets in their ration and hoped that the conference will deliberate upon the nutritional aspects and implementation of millets and its products in Armed Forces rations.

Padma Shri Prof Khadar Valli Dudekula, known as the Millet Man of India, was present during the inaugural ceremony. He highlighted the importance of millets for the well-being of humanity and a disease-free life.

DG (Life Sciences), DRDO spoke about the importance of the conference in line with the International Year of Millets and stated that awareness about millets life will further increase with this conference. ADG ST(SM), Army HQ complimented the DFRL for organising the conference and spoke about the requirement of the use of millets in Army ration.

Major technical themes of the conference include Nutrition & Health benefits of millets; Millets in military ration issues, challenges, opportunities; Recent advances in millet processing & value-

added products; Networking of supply chain management among stakeholders; and Policy interventions in the promotion of millets.

On the occasion, the Raksha Rajya Mantri also inaugurated the exhibition organised by DFRL, wherein 17 industries are participating. He also launched the first biodegradable water bottle in the country developed by DFRL. Various Licensing Agreements for Transfer of Technology were handed over to the industry by the DRDO Chairman in the presence of Shri Ajay Bhatt. The conference is being attended by the personnel of the Armed Forces, Paramilitary, DRDO scientists, academia and industry partners.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1962023>



*Fri, 29 Sep 2023*

## **Mysuru-based Defence Food Research Laboratory Develops Biodegradable Water Bottles**

In what is seen as a remedy to rampant plastic pollution due to littering and inadequate recycling, the Mysuru-based Defence Food Research Laboratory (DFRL), a DRDO lab, has innovated eco-friendly biodegradable water bottles.

The sustainable poly lactic acid-based (PLA) bottles help to lower the overall carbon footprint and it is compostable, it said.

Launching the green water bottles at the National Conference on “Millets for Military Ration and Specific Nutritional Requirements” organised by the DFRL at the SDM Institute for Management Development (SDM-IMD) here, the DFRL said the water bottle is compostable as per ISO 17088-2021 and IS 17899 T: 2022 Standards and added that the bottle was safe for food and beverage contact applications.

Notably, the bottle cap and label are also compostable.

According to DFRL, the transparent and durable water bottle has similar strength like PET bottles. Derived from 100% bio-based and renewable sources, the bottle is sustainable and reduces dependency on non-renewable resources.

The DFRL, in collaboration with Konkan Speciality Polyproducts Private Limited, Mangaluru, developed the PLA bottles suitable for packing 250 ml of potable water. The bottles are manufactured using injection blow molding technique.

Minister of State for Defence and Tourism Ajay Bhatt launched the biodegradable water bottles at the national conference in the presence of many dignitaries, including DRDO Chairman Samir V Kamat, DG (Life Sciences) DRDO U K Singh, officers from the Indian Army and the DRDO.

<https://www.thehindu.com/news/national/karnataka/mysuru-based-defence-food-research-laboratory-develops-biodegradable-water-bottles/article67360916.ece>

## भारत घटाएगा विदेशी हथियारों का आयात:DRDO के चीफ 6 अक्टूबर को होंगे IIT-BHU के कॉन्वोकेशन गेस्ट; डिफेंस रिसर्च पर बढ़ेगा जोर

रक्षा हथियारों और उपकरणों का विदेशी आयात घटाने को लेकर भारत अब तेजी से कदम बढ़ाएगा। IIT-BHU के 12 वें दीक्षांत समारोह ये इस बात के बड़े संकेत मिल रहे हैं। 6 अक्टूबर को रक्षा अनुसंधान और विकास विभाग (DRDO) के अध्यक्ष समीर वी कामथ दीक्षांत समारोह के चीफ गेस्ट होंगे। इस बार के दीक्षांत समारोह के बाद IIT-BHU और DRDO के बीच रिसर्च साझेदारी में मजबूती आएगी। IIT-BHU और रक्षा अनुसंधान और विकास विभाग (DRDO) के बीच डिफेंस सेक्टर में भारत को आत्मनिर्भर बनाने पर अब तेजी से काम होगा।

### पिछले साल खुला था DRDO का एक्सीलेंस सेंटर

IIT-BHU ने इलेक्ट्रिकल इंजीनियरिंग विभाग में DRDO का रीजनल एक्सीलेंस सेंटर इंडस्ट्री एकेडमिया- सेंटर ऑफ एक्सीलेंस (DIA-CoE) बनाया गया है। रक्षा मंत्री राजनाथ सिंह ने पिछले साल 17 सितंबर को इस पर मंजूरी दी थी। यह सेंटर डिफेंस सेक्टर में खास और फ्यूचर की टेक्नोलॉजी के लिए तेज विकास पर रिसर्च करेगा। पहले फेज में पाउडर मेटलर्जी, इलेक्ट्रॉनिक, फंक्शनल सब्सटेंस, हाई पावर माइक्रोवेव सोर्स और डिवाइस सेक्टर में काम होगा।

### हर विभाग को मिलेगा DRDO सेंटर का आउटपुट

IIT-BHU के डायरेक्टर प्रोफेसर प्रमोद कुमार जैन ने कहा कि इस सेंटर का फोकस भारत के डिफेंस इंपोर्ट को घटाने और डिफेंस सेक्टर में आत्म निर्भर बनाना है। इस सेंटर के रिसर्च आउटपुट सभी विभागों के लिए उपलब्ध होंगे। कई विभागों में DRDO के प्रोजेक्ट्स पर काम चल रहे हैं। इससे विभागवार रिसर्च में बेहतरी देखने को मिलेगी।

<https://www.bhaskar.com/local/uttar-pradesh/varanasi/news/india-will-rapidly-reduce-the-import-of-defense-weapons-131923310.html>



## ASTRA BVR Missile: वायु सेना के बेड़े में जल्द शामिल होगी यह मिसाइल, दुश्मनों को देगी कड़ी चोट

भारत की पहली बियॉन्ड-विजुअल रेंज (BVR) हवा से हवा में मार करने वाली मिसाइल एस्ट्रा (ASTRA) से भारत की वायु सेना और मजबूत होगी। यह मिसाइल दिसंबर तक भारतीय वायु सेना के बेड़े में शामिल हो सकती है। हाल ही में गोवा के तट से लाइट कॉम्बैट एयरक्राफ्ट (LCA) तेजस ने इसको सफलतापूर्वक दागा। इसके ठीक एक दिन बाद आईएफ प्रमुख एयर चीफ मार्शल वीआर चौधरी ने एयर मुख्यालय पर एलसीए कार्यक्रम की स्थिति की समीक्षा की।

### लगभग 20,000 फीट की ऊंचाई पर सफलतापूर्वक किया गया था प्रक्षेपण

रक्षा मंत्रालय के बयान में कहा गया है कि मिसाइल प्रक्षेपण लगभग 20,000 फीट की ऊंचाई पर सफलतापूर्वक किया गया। “परीक्षण के सभी उद्देश्य पूरे हो गए और यह एक आदर्श प्रक्षेपण था।” वायु सेना का यह मिसाइल पाकिस्तान और चीन को पस्त करने में सक्षम है। फिलहाल वायु सेना 200 मिसाइल का आर्डर दे सकती है।

मिसाइल के सफल प्रक्षेपण में शामिल सभी एजेंसियों की सराहना करते हुए रक्षा मंत्री राजनाथ सिंह ने कहा था कि इस प्रक्षेपण से तेजस की लड़ाकू क्षमता में उल्लेखनीय वृद्धि होगी और आयातित हथियारों पर निर्भरता कम हो जाएगी।

मिसाइल एस्ट्रा (ASTRA) एक अत्याधुनिक अत्यधिक चतुराई वाले सुपरसोनिक हवाई लक्ष्यों को भेदने और नष्ट करने में सक्षम है। इसे रक्षा अनुसंधान और विकास प्रयोगशाला (DRDL), अनुसंधान केंद्र इमारत (RCI) और डीआरडीओ की अन्य प्रयोगशालाओं द्वारा डिजाइन और विकसित किया गया है। एस्ट्रा मार्क 1 की अधिकतम हेड-ऑन लॉन्च रेंज 100 किलोमीटर, गति 4.5 मैक और लॉन्च क्लियरेंस 20 किलोमीटर की ऊंचाई (66,000 फीट) तक है।

परीक्षण प्रक्षेपण की निगरानी एयरोनॉटिकल डेवलपमेंट एजेंसी (ADA), रक्षा अनुसंधान और विकास संगठन (DRDO), हिंदुस्तान एयरोनॉटिक्स लिमिटेड (HAL) के परीक्षण निदेशक और वैज्ञानिकों के साथ-साथ सेंटर फॉर मिलिट्री एयरवर्थनेस एंड सर्टिफिकेशन (CEMILAC) और महानिदेशालय के अधिकारियों द्वारा की गई थी। एयरोनॉटिकल क्वालिटी एश्योरेंस (DG-AQA) के बयान में कहा गया है कि विमान की निगरानी चेस तेजस द्विन-सीटर विमान द्वारा भी की गई थी।

<https://www.jansatta.com/national/astra-indigenous-beyond-visual-range-bvr-missile-air-force-fleet-drdo-tough-blow-to-pakistan-and-china/3027592/>

**R. REPUBLICWORLD.COM**

*Mon, 02 Oct 2023*

## **DRDO Prepares Lighter and More Agile LRSAM, Ready to Counter Naval Threats in IOR**

In a strategic move to bolster its naval firepower, India is set to conduct a maiden test of its long-range anti-ship missile (LRASM) in early October. This LRASM, developed by the Defence Research and Development Organisation (DRDO), is expected to have a range of 500 kilometres, surpassing the capabilities of the supersonic Indo-Russian cruise missile BrahMos.

The DRDO aims to integrate the LRASM into the Indian Navy's warships within the next seven years. This development enhances India's naval strength by introducing a lighter, more agile missile system that can be deployed by helicopters and smaller vessels, crucial in countering potential threats in the Indian Ocean, particularly from China's expanding naval fleet.

### **India's advancements in Missile Technology and Export Potential**

India's prowess in missile technology has grown significantly over the years, positioning it among the world's top nations in this field. From the Agni series of ballistic missiles with nuclear capabilities to the highly accurate BrahMos cruise missile developed in collaboration with Russia, India boasts a diverse range of indigenous missiles, including anti-aircraft systems and anti-satellite (ASAT) missiles. These advancements are integral to India's national security and deterrence strategy.

Moreover, India's missile technology has garnered international interest, with several friendly nations in West Asia, Africa, and Southeast Asia expressing interest in purchasing India's defence systems. The Indo-Pacific region, in particular, has seen India emerge as a significant defence exporter. Nations like the Philippines, Vietnam, and Indonesia have shown keen interest in procuring India's supersonic BrahMos missile, which has a reputation as the world's fastest cruise

missile. India's defence exports are gaining momentum in the region, driven by shared security concerns and the need for reliable defence partners.

### **Expanding the BrahMos Missile's Reach**

India's focus on defence exports also extends to extending the range of the BrahMos missile from its current 350-400 kilometres to an impressive 800 kilometres. The Indo-Russian supersonic anti-ship cruise missile, known for its versatility and speed, has been integrated into all three branches of the Indian military. While the exact number of BrahMos missiles in India's arsenal remains undisclosed, estimates suggest it could comprise over 1,200 to 1,500 missiles. Additionally, India is actively developing a lighter air-launched variant of the BrahMos, the BrahMos-NG, intended for use by the Indian Air Force, further expanding its reach and capabilities.

India's strides in missile technology and its growing presence in the global defence market are indicative of its commitment to enhancing its defence capabilities and fostering strategic partnerships with like-minded nations. The LRASM test and the potential expansion of defence exports highlight India's readiness to address evolving security challenges and contribute to regional stability in the Indo-Pacific.

<https://www.republicworld.com/india-news/general-news/drdo-prepares-lighter-and-more-agile-lrsam-ready-to-counter-naval-threats-in-ior-articleshow.html>

## **Defence News**

## **Defence Strategic: National/International**



**Press Information Bureau  
Government of India**

**Ministry of Defence**

*Sun, 01 Oct 2023*

### **Vice Admiral Tarun Sobti, AVSM, VSM Assumed Charge as Deputy Chief of Naval Staff**

Vice Admiral Tarun Sobti, AVSM, VSM assumed charge as Deputy Chief of the Naval Staff on 01 Oct 23.

Vice Admiral Tarun Sobti was commissioned into the Indian Navy on 01 Jul 88 and is a Navigation and Direction Specialist.

In his career spanning over 35 years, he has held a variety of Command and Staff appointments both ashore and afloat. The Flag Officer has commanded INS Nishank, a Missile Boat, INS Kora, a Missile Corvette, and Guided Missile Destroyer INS Kolkata. In his staff tenures he has served in the Directorate of Staff Requirements and Directorate of Personnel, and as the Naval attache at the Embassy of India at Moscow.



On promotion to the rank of Rear Admiral in 2019, he was appointed as the Deputy Commandant and Chief Instructor at Indian Naval Academy, Ezhimala and subsequently as Flag Officer Commanding Eastern Fleet. On elevation to the rank of Vice Admiral in 2021, he took over as Director General Project Seabird prior taking over the present appointment as Deputy Chief of Naval Staff at NHQ MoD.

The Flag Officer was awarded the Vishisht Seva Medal in 2020 and Ati Vishisht Seva Medal in 2022 by the Hon'ble President of India.

He has succeeded Vice Admiral Sanjay Mahindru who retired after more than 38 years of illustrious service on 30 Sep 2023. During the tenure of VAdm Sanjay Mahindru as DCNS, the Indian Navy witnessed a number of significant achievements that have elevated India's maritime reach and operational tempo, as also a number of successful strategic cooperation initiatives with friendly foreign countries.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1962592>



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

**Ministry of Defence**

*Mon, 02 Oct 2023*

## **Chief of Army Staff of Indian Army to Strengthen Defence Cooperation with Visit to Tanzania**

General Manoj Pande, Chief of the Army Staff (COAS) of the Indian Army embarks on an official visit to Tanzania from 2nd to 5th October 2023, reinforcing the long-standing defence ties between the two countries.

The COAS is scheduled to visit Dar es Salaam, the Tanzanian capital, the historical city of Zanzibar, and Arusha. He will engage in discussions and meetings with a host of dignitaries and senior officers from Tanzania. During his visit, the COAS is likely to call on the Hon'ble President of the Union Republic of Tanzania Her Excellency Samia Suluhu Hassan.

High on the agenda are the planned meetings with Hon'ble Defence Minister Dr. Stergomena Lawrence Tax and the Chief of Defence Force General Jacob John Mkunda. The COAS will also be visiting Zanzibar and call on Hon'ble President of Zanzibar His Excellency Dr. Hussein Ali Mwinyi. In addition, interaction with the Commander of the 101st Infantry Brigade General Saidi Hamisi Saidi is also scheduled.

General Manoj Pande will also be addressing the National Defence College and interacting with Major General Wilbert Augustine Ibuge Commandant and the faculty. Additionally, a meeting with Brigadier General Stephen Justice Mnkande, Commandant of the Command and Staff College, Duluti is also planned during the visit.

The visit also coincides with the 2nd India Tanzania Mini DEFEXPO being conducted at Dar-es-Salaam which will showcase the growing prowess of the Indigenous defence industry complex of India.

The bilateral defence relationship between India and Tanzania has been robust and thriving. The signing of the Memorandum of Understanding on Defence Cooperation in October 2003 laid a strong foundation. This cooperation was further underscored by the second meeting of the India-Tanzania Joint Defence Cooperation Committee held in Arusha, Tanzania on 28th and 29th June this year.

Both the Indian and Tanzanian Army offer vacancies for each other in professional military courses. This has helped the personnel from both countries build strong bonds, exchange ideas and share best practices. The Tanzanian Army has been consistently participating in the UN Peacekeeping training in India over the last five years. Similarly, a Training Team of the Indian Army has been deployed at Command and Staff College, Duluti since year 2017.

Tanzanian military delegations have been regularly visiting India symbolising the deep military cooperation between both countries. In the recent past, Tanzanian delegations made a notable presence at Aero India 23, Indo Africa Army Chiefs Conclave-23 and AFINDEX-23. Senior military leaders from Tanzania also visited India during Def Expo 22 and recently concluded the 13th IPACC, 47th IPAMS and 9th SELF 23.

This visit of the COAS further consolidates the high-level bilateral defence engagements and close defence ties shared between India and Tanzania. The visit promises to not just celebrate the existing collaborations but also pave the way for a stronger future partnership.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1963166>



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

**Ministry of Defence**

**Sat, 30 Sep 2023**

## **SIMBEX 23 Concludes**

Indian Naval Ships Ranvijay (guided-missile Destroyer), Kavaratti (ASW Corvette), submarine Sindhukesari and a long range Maritime Patrol Aircraft P8I participated in the 30th edition of Singapore India Maritime Bilateral Exercise (SIMBEX) in Singapore.

First held in 1994, the three-decade-old annual exercise kicked off with an opening ceremony on 21 September 2023, which was attended by personnel from both the navies. The ceremony saw unveiling of the SIMBEX 30th Edition Logo. The Harbour Phase witnessed a wide range of professional interactions, Subject Matter Expert Exchanges, conduct of combined aviation and firefighting/ damage control exercises, and the signing of a Joint Standard Operating Procedure (JSOP) on Submarine Rescue between India and Singapore in presence of the High Commissioner of India to Singapore and the Singapore Navy Fleet Commander. The Commanding Officers of the Indian Navy contingent also paid homage at the Kranji War Memorial in a solemn wreath laying ceremony.

Other activities undertaken during the stay in harbour included sports exchanges, cross-deck visits, and onboard visit of school children and personnel from the Indian High Commission.

The Sea Phase of SIMBEX 23 was conducted from 25 to 28 September 2023, wherein units of Indian Navy alongwith RSS Stalwart, Valour, Tenacious, a submarine, Maritime Patrol Aircraft Fokker F-50 and fighter aircraft engaged in complex maritime security exercises including

advanced anti-submarine warfare, surface and air defence exercises, as well as tactical manoeuvres and weapon firings.

SIMBEX 23 ended on a high note reaffirming the close bonds of friendship and interoperability between the two maritime nations.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1962396>



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

**Ministry of Defence**

*Fri, 29 Sep 2023*

## **Inaugural Panel Discussion Conducted Under Project Udbhav- An Indian Army Initiative to Rediscover the Indic Heritage of Statecraft and Strategic Thoughts**

The Indian Army in collaboration with the United Service Institution of India (USI), concluded a hybrid-panel discussion today under Project Udbhav on the topic “Evolution of Indian Military Systems, War fighting and Strategic Thought- Current Research in the Field and Way Forward”.

Project Udbhav is an initiative set in motion by the Indian Army to rediscover the profound Indic heritage of statecraft and strategic thoughts derived from ancient Indian texts of statecraft, warcraft, diplomacy and grand strategy. The project endeavours to explore India’s rich historical narratives in the realms of statecraft and strategic thoughts. It focuses on a broad spectrum including Indigenous Military Systems, Historical Texts, Regional Texts and Kingdoms, Thematic Studies, and intricate Kautilya Studies.

This pioneering initiative stands testimony to the Indian Army’s recognition of India’s age-old wisdom in statecraft, strategy, diplomacy, and warfare. At its core, Project Udbhav seeks to bridge the historical and the contemporary. The goal is to understand the profound depths of indigenous military systems, their evolution, strategies that have been passed down through the ages, and the strategic thought processes that have governed the land for millennia.

Aim of Project Udbhav is not limited to just rediscovering these narratives but also to also develop an indigenous strategic vocabulary, which is deeply rooted in India’s multifaceted philosophical and cultural tapestry. Overall aim is to integrate age-old wisdom with modern military pedagogy.

Since 2021, under the aegis of the Indian Army, there has been a project in progress on the compilation of Indian stratagems based on ancient texts. A book has been released under this project which lists 75 aphorisms selected from ancient texts. However, the first scholarly outcome of the initiative is the 2022 publication titled “Paramparik Bhartiya Darshan... Ranniti aur Netriyta ke Shashwat Niyam” meant to be read by all ranks of the Indian Army. English translation of the title being “Traditional Indian Philosophy...Eternal Rules of Warfare and Leadership”.

The panel discussion conducted today is an ambitious step to revitalize the knowledge creation from India’s rich classical heritage. The scope of the discussion encompassed discussion on the study of ancient texts from the 4th century BCE to the 8th century CE, with a focus on Kautilya, Kamandaka, and The Kural. The discussion has been able to achieve the intended outcome which was to spark interest, engagement, and further research into India’s traditional strategic thought. The

Keynote Address was delivered by Lieutenant General Raju Baijal, Director General Strategic Planning.

The discussion was chaired by Lieutenant General Vinod G Khandare (Retired), Principal Adviser, Ministry of Defence. The panelists included scholars, veterans and serving officers who have made immense contribution in this field to include Dr Kajari Kamal, an accomplished scholar in Military Education, she brought her profound knowledge of Kautilya and the larger canvas of Indian Strategic culture.

Today's discussion is only the first step in a series of engagements planned under Project Udbhav. This endeavor sets the stage for future initiatives, like the eagerly anticipated Military Heritage Festival and the presentation of papers, which will delve into the intricate details of strategic texts and their relevance today.

The panel discussion has firmly placed the spotlight on India's rich and often understudied strategic and military heritage. By reintroducing these classical teachings into the contemporary military and strategic domains, the Indian Army aims to nurture the officers to apply ancient wisdom in modern scenarios and also allow a more profound understanding of international relations and foreign cultures.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1962072>



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

**Ministry of Defence**

*Mon, 02 Oct 2023*

## **Indian Coast Guard Pollution-Control Vessel Samudra Prahari visits Tanjung Priok Port, Indonesia**

In a significant demonstration of India's commitment to addressing regional marine pollution threats, the Indian Coast Guard Ship Samudra Prahari, a specialized Pollution-Control Vessel, arrived at the port of Tanjung Priok, Jakarta, Indonesia, on 01 Oct 23. This visit, a part of India's ASEAN initiatives for Marine Pollution Response, underscores India's expertise and collaborative efforts in tackling regional maritime challenges, particularly those related to marine pollution threats.

During this overseas deployment from 11 Sep to 14 Oct 2023, the specialized Pollution Control Vessel earlier made port call in Bangkok, Thailand from 16 Sep to 20 Sep 23. Equipped with a Chetak Helicopter in Pollution Response configuration, the vessel highlights India's commitment to enhancing pollution response capabilities in the region.

As a part of an overseas exchange program, the ship has aboard 13 National Cadet Corps (NCC) cadets, who will participate actively in the "Puneet Sagar Abhiyan" thereby giving the Abhiyan an international reach. This program focuses on beach clean-ups and similar activities, fostering collaboration with partner nations.

The ship received a warm welcome from BAKAMAL (Indonesia Maritime Security Agency) band playing fanfare and other welcoming military tunes as a gesture to their Indian friends. During the four-day stay of the ship at Jakarta, ICG ship will engage with BAKAMLA in professional exchanges, cross-deck visits, table-top exercises, Pollution Response demonstrations, Joint Yoga

sessions, joint exercises, as well as official and social engagements, including visits to capacity-building facilities.

The visit is an outcome of India's ASEAN initiatives as announced by Raksha Mantri Shri Rajnath Singh in the ASEAN Defence Minister Meeting Plus held last year in 2022 in Cambodia. The initiative aligns seamlessly with India's visionary approach, as outlined by Prime Minister Shri Narendra Modi, encapsulated in "SAGAR - Security and Growth for All in the Region".

<https://pib.gov.in/PressReleasePage.aspx?PRID=1963349>



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

**Ministry of Defence**

*Sun, 01 Oct 2023*

## **Raksha Mantri Unveils Several Digital Initiatives of Defence Accounts Department During its 276th Annual Day Celebrations**

**‘SARANSH’, an integrated defence finance dashboard for Ministry of Defence, among the initiatives launched**

**India needs stronger Armed Forces with modern equipment to become a developed nation by 2047; Effective utilisation of financial resources is the key: Shri Rajnath Singh**

**Calls upon DAD to collaborate with institutes like IIMs & ICAI to deal with complexities of changing times**

**“Realistic assessment of the demand of user agency & understanding the product’s market must for prudent financial advice”**

**Suggests setting up a standing committee to research & provide high-quality market intelligence to field officers**

Raksha Mantri Shri Rajnath Singh launched several digital initiatives of Defence Accounts Department (DAD) during its 276th Annual Day celebrations at Delhi Cantt. on October 01, 2023. The initiatives include an integrated defence finance dashboard for Ministry of Defence ‘SARANSH’ - Summary of Accounts, Budget and Expenditure for Raksha Mantralaya; BISWAS - Bill Information and Work Analysis System and e-Raksha Awaas.

In his address, the Raksha Mantri described the DAD as the guardian of defence finance and appreciated its efforts towards enhancing the country’s defence capabilities through a transparent & efficient system. Terming accounting as extremely important for an individual, organisation and nation as a whole, he said: “Our wants are unlimited, but the available resources are limited”. He commended the DAD for ensuring judicious use of resources while extracting optimum output.

While Shri Rajnath Singh lauded the DAD for coming out with numerous digital initiatives, he gave a series of suggestions to further enhance the efficiency and functioning of the department. He exhorted the officials of the DAD to develop their professional capabilities to deal with the complexities arising of the constantly-evolving times. He urged them to collaborate with reputed institutions like the Indian Institutes of Management (IIMs) and the Institute of Chartered

Accountants of India (ICAI) to develop and adopt customised training modules, as per requirements.

The Raksha Mantri termed financial advice as one of the most important tasks of the DAD. He urged them to keep in mind two broad aspects while extending financial advice - realistic assessment of the demand of the user agency & understanding of the product's market. He stressed the need to pay attention to the fact whether there is a need to buy a product or not and whether a similar product of equal or greater effectiveness is available somewhere else in the market at a lower cost. This understanding will further increase the quality of financial advice, he said.

To develop such an understanding, Shri Rajnath Singh suggested the creation of an in-house mechanism, a standing committee of experienced people who can research & study market forces and provide high-quality market intelligence to the field officers. "Big banks and financial institutions develop in-house economic intelligence and research teams. On similar lines, the DAD needs to develop an in-house team for market research and intelligence," he said. The Raksha Mantri also recommended collaboration with industry associations, business schools, etc. for extensive study of the market conditions.

The Raksha Mantri emphasised the need to bolster the internal vigilance mechanism, so that any suspicious activity can be detected and reviewed immediately. This, he said, will not only help in dealing with the problem quickly, but will also increase the trust of the people in the department.

Shri Rajnath Singh asserted that the Government has set a target to make India a developed nation by 2047 and the DAD will play a crucial role in realising this vision of Prime Minister Shri Narendra Modi. "If we wish to create a developed nation, we will need stronger Armed Forces with modern arms and equipment. Therefore, it is necessary to effectively utilise the financial resources available to us. There should be a fine balance between the demands of services and the allocation of available resources," he said.

#### **Details of the digital initiatives launched by the Raksha Mantri are given below:**

##### **SARANSH**

SARANSH (Summary of Accounts, Budget & Expenditure for Raksha Mantralaya) has been conceptualised and developed with the aim to reflect a more accurate and objective view of the defence financial data across India on payment, accounting, budgeting etc. by leveraging data analytics on the different databases of various IT systems running in the Defence Accounts Department.

This analytics tool integrates, compiles, sanitises & standardises financial data from multiple applications/data sources and provides a real-time comprehensive platform with the features of a dashboard: visualize trends, displaying metrics, graphs on key performance indicators, reports etc. 'SARANSH' will serve as a complete Dashboard for the higher management with at-a-glance visibility of all the defence expenditure for centralized monitoring and driving towards data-driven decisions for all defence organizations.

##### **BISWAS**

BISWAS will serve as a Dashboard to the various PCsDA/CsDA and display different infographics for the purpose of monitoring and analysis of the whole process flow of bill management, including reports on Key Performance Indicators (KPIs). It provides real-time detailed analysis of bill processing, with interactive visualisations of granular data flowing through the various office automation systems for a Controller office.

##### **e-Raksha Awaas**

e-Raksha Awaas is a centralised and comprehensive software package developed to streamline and optimize the process of generating timely rent and allied charges for rentable buildings within the Defence Services and facilitating the prompt remission of rent and allied charges to Government Accounts. This package serves as a unified online platform for all stakeholders involved in the generation, recovery and remission of rent and allied charges viz. BSO, AAO (BSO), AO (GE), PAOs, PCsDA/CsDA office etc.

On the occasion, Shri Rajnath Singh also gave away the Raksha Mantri Awards for Excellence 2023 to five teams for exhibiting exemplary initiatives in implementing key department projects – For adoption of new paradigms of training methodology; implementation of Computer Based Testing (CBT) systems in the conduct of SAS Examinations in Defence Accounts Department; Implementation of SARANSH Raksha Mantralaya Dashboard; Implementation of Dolphin 2.0, a nation-wide system for management of pay and allowances for JCOs/Other Ranks of the Indian Army; and for Development of Key Performance Indicators (KPIs) for field offices of the Department.

Chief of Defence Staff General Anil Chauhan, Chief of Air Staff Air Chief Marshal VR Chaudhari, Chief of Naval Staff Admiral R Hari Kumar, Financial Advisor (Defence Services) Smt Rasika Chaube, Controller General of Defence Accounts Shri SG Dastidar and other senior officials of Ministry of Defence were present during the event.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1962623>



*Mon, 02 Oct 2023*

## **Indian Navy Unveils Cutting-edge Autonomous Weaponized Boat Swarms and Underwater Vessels at Swavlamban 2.0**

Excitement is building as countdown begins for the second edition of the Indian Navy's Naval Innovation and Indigenization Seminar, Swavlamban, set to take place on October 4th and 5th in New Delhi. The event will unveil the Autonomous Weaponized Boat Swarms for the Indian Navy, and for the first time, the Autonomous Vessel Underwater (AUV) will also be featured.

### **What Makes These Platforms Remarkable?**

The Indian Navy has entered into an agreement with Sagar Defence Engineering Pvt. Ltd for the development of Autonomous Weaponized Boat Swarms.

Furthermore, as per company officials, an Acceptance of Necessity (AoN) has been issued for the acquisition of 30 AUVs for the Indian Navy.

Sagar Defence Engineering Pvt. Ltd stands as one of the winners under the Innovations for Defence Excellence (iDEX) DISC 7 program, specifically the SPRINT (Supporting Pole-vaulting In R&D through Innovations for Defence Excellence) framework. This initiative, launched by Prime Minister Narendra Modi and Defence Minister Rajnath Singh, is designed to foster innovation and technology development within the Defence and Aerospace Sector. It actively engages industries, including Micro, Small, and Medium Enterprises (MSMEs), start-ups, and individual innovators, to develop specialized technologies. In a recent development, Sagar Defence Engineering Pvt. Ltd signed an agreement with the Indian Navy for the development of Autonomous Weaponized Boat Swarms.

This signifies the 50th contract awarded under the 'SPRINT' program, which aims to produce 75 indigenous technologies for the Indian Navy, as part of the Azadi ka Amrit Mahotsav.

Capt. Nikunj Parashar, Managing Director and founder of Sagar Defence Engineering, expressed, "India has been diligently working towards constructing autonomous swarm boats that will enhance maritime security and align with global advancements in unmanned technology. Swarm boats have demonstrated effectiveness across various tasks, including oceanography, bathymetry, hydrography, environmental monitoring, freight transport, search and rescue, as well as military applications."

According to Capt. Parashar, "These swarms are strategically designed for naval tactics, employing a coordinated deployment of numerous small unmanned boats to overwhelm an adversary's naval defenses."

### **The Advantages of This System**

"With the implementation of an integrated autonomous system, our foremost objective is to address India's maritime security needs by executing diverse naval and security missions. These missions encompass high-speed interdiction, surveillance, constabulary operations, C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance), along with low-intensity maritime operations carried out through our Unmanned Surface Vehicles (USVs)," Captain Parashar elucidates.

Captain Parashar underscores, "Through iDEX-DIO and the Indian Navy, we are presented with the opportunity to contribute to the growth of the defense industry. This engagement extends to supporting start-ups and enhancing our nation's defense and aerospace capabilities."

"In our pursuit of these goals, we have taken substantial steps towards preserving human lives during challenging and hazardous missions. Additionally, we are promoting the localization of such technology, contributing to the development of a Secure India," he emphasizes.

### **More About Autonomous Weaponized Boat Swarms**

"These swarm boats are equipped with various types of weaponry and sensors, capable of remote or autonomous operation. They incorporate an integrated system capable of executing a range of naval and security missions, including littoral/ODA Patrol, High-Speed Interdiction, Coastal Surveillance, Local Naval Defence, Constabulary Operations, C4ISR, Medium-Sized Unmanned Surface Vessel, and Low-Intensity Maritime Operations (LIMO). These initiatives are carried out under the auspices of the Naval Innovation and Indigenization Organization (NIIO) and Technology Development Acceleration Cell (TDAC)," he elucidates.

The defense minister has expressed optimism that with the implementation of the SPRINT initiative, the Indian industry will respond with enthusiasm, contributing to a more robust and self-sufficient military sector, thereby strengthening the country's security system.

In recent years, India has cultivated a domestic industry-friendly environment, facilitated the growth of local companies and ensured the holistic development of the nation while catering to the security needs of friendly nations, aligning with the vision of "Make in India, Make for the World."

### **About AUVs**

Acceptance of Necessity has been issued for the acquisition of 30 AUVs for the Indian Navy, offering significant tactical advantages in underwater and surface warfare through their swarming capabilities.

These AUVs can be deployed for various missions, including Mine Counter Measures (MCM), anti-Submarine Warfare (ASW), hydrographic and oceanographic data acquisition, as well as homeland security tasks such as wreck localization, port and coastal security. They possess swarming capabilities, enabling multiple missions with low capital and operational expenses. Additionally,



their modular architecture allows customization with various payloads and battery sizes, tailoring them to user-specific requirements and diverse environmental conditions.

<https://www.financialexpress.com/business/defence-indian-navy-unveils-cutting-edge-autonomous-weaponized-boat-swarms-and-underwater-vessels-at-swavlamban-2-0-3260736/>



*Fri, 29 Sep 2023*

## **Indian Army, IAF to Acquire More 6400 Multi Spectral Camouflage Nets to Use in Himalayas**

The Indian Army has released an Acceptance of Necessity (AoN) to acquire 6,425 units of Multi Spectral Camouflage Nets (MSCN) specifically designed for High Altitude Areas (HAA) in collaboration with the Indian Air Force. The AoN details, issued on September 27, provide insight into the crucial features required for this specialised equipment, tailored for rugged, barren, mountainous, and snowbound terrains.

### **Emphasis on buying Indian-IDDMM classification**

The army will receive 6,175 nets for High Altitude areas, while the Indian Air Force will procure 250 units for various 'Air Force' applications, as stated in the AoN. This procurement falls under the 'Buy (Indian-IDDMM)' classification, emphasising the need for complete design and development within India, prioritising indigenous production. The Indian Air Force (IAF) had previously acquired a total of 6,000 similar MSCNs. These nets were produced by an Indian MSME- M/s Entremonde Polycoaters Ltd. In an official statement, the IAF stated, these acquisitions will camouflage IAF's installations

### **Crucial specifications for high-altitude operations (As per the AoN)**

The AoN outlines essential specifications for the MSCN, crucial for operations in high-altitude environments. According to the AoN, the netting should provide optimal camouflage for critical installations, thereby reducing the likelihood of detection by both aerial and ground-based electromagnetic sensors.

**Visual and UV spectrum coverage:** The MSCN is specified to cover a wavelength range of 380 to 780 nm in the visual range, resulting in a significant 70 percent reduction in object recognition at distances of 750 metres in daytime conditions and 100 metres during nighttime under a full moon. In the UV range (300 to 380 nm), the net's reflectivity index should not be less than 60 percent, ensuring effective concealment.

**Stringent thermal transmission tests:** Mandated tests for thermal transmission impose a maximum allowable of 20 percent across specified bands. This ensures the net's performance in varying thermal conditions, with a permissible temperature difference of less than 10°C between the net and its ambient environment.

**Radar detection shield:** The Army will also assess the MSCN's ability to reduce radar transmissions in centimetre and millimetre wavelength bands. A minimum transmission loss of 6 dB is required, providing an effective shield against radar detection.

As per the AoN, one of the additional features is that the MSCN should have reversibility. This allows for deployment in two distinct contiguous terrains, with one side tailored for High Altitude Mountain Terrain, and the reverse side optimised for Snow Bound Areas. The colour pattern strictly

adheres to the Indian Standard Colour Code (ISC), ensuring seamless integration with the environment.

### **Operating parameters and longevity requirements**

Operating parameters have also been defined for the acquisition of the MSCN. The MSCN must function within a wide temperature range, from minus 30°C to 50°C. Storage requirements remain flexible. The AoN also specifies that there should be no need for any special arrangements. Furthermore, the requirements stated for the MSCN have a strong focus on its longevity, with an additional requirement for an operational life of ten years and an allowance for 150 handlings. Another need stated in the AoN is that the net's weight should be 300 grams per square metre to ensure portability without compromising durability.

Another requirement is that repair kits should accompany acquisitions of each MSCN to ensure troops are able to address minor damages in the field. The acquisition, as per the Army's official statement, will be divided between two vendors in a ratio of 60:40, with the first vendor delivering 60 percent of the initial order and the second vendor providing the remaining 40 percent at similar costs.

<https://www.republicworld.com/india-news/general-news/indian-army-iaf-to-acquire-more-6400-multi-spectral-camouflage-nets-to-use-in-himalayas-articleshow.html>

## **THE ECONOMIC TIMES**

*Mon, 02 Oct 2023*

### **IAF Mainstay Su 30MKI Fighter Jet Fleet to be Upgraded under ₹60,000-Crore Plan**

The mainstay Su 30MKI fighter jet fleet is set to be upgraded under a plan that will include completely new avionics, radars and electronic warfare suites. Close to 100 of the fighters are to be upgraded in the first tranche that will be conducted entirely in India.

Sources said the upgrade plan is valued in excess of Rs 60,000 crore and will touch all aspects of the fighter jet except for its airframe and engines. Hindustan Aeronautics Limited (HAL) will be the lead agency for the upgrade in partnership with the Indian Air Force and other partners.

India ordered 272 of the fighter jets from Russia that form the mainstay of the air force fighter fleet. Last month, an order for 12 more jets was cleared for ₹11,000 crore. These jets will be manufactured by HAL with indigenous content of over 50%.

A 'Super Sukhoi' upgrade has been in the works for several years as the aircraft have been in service for two decades and need to be modernised to current standards. Talks on the upgrade have been on with Russia since at least 2017, with India looking at maximising indigenous systems on the aircraft. "The upgrade is likely to include enhanced beyond visual range capability, new electronic warfare suites and a new radar," one of the sources said.

The Su 30MKI fighter fleet upgrade to modern standards could also open up export potential in the future as India can offer the package to friendly foreign nations that operate the Russian-origin aircraft. Over 600 aircraft of the Su 27/30 type have been manufactured and large operators include Vietnam, Malaysia, Indonesia and Algeria. Malaysia could be an early option as well as Vietnam, which operates 46 fighters of the type.

<https://economictimes.indiatimes.com/news/defence/iaf-mainstay-su-30mki-fighter-jet-fleet-to-be-upgraded-under-60000-crore-plan/articleshow/104113223.cms>

## **IAF to Buy 156 More 'Prachand' Light Combat Choppers for Deployment along China, Pak Border**

In what could be termed as one of the biggest pushes for Prime Minister Narendra Modi's 'Make in India' in the defence sector, the Indian Air Force is going to place orders for 156 more Prachand Light Combat Helicopters, with HAL, which would be deployed at both the China and Pakistan front by the IAF and the Indian Army.

The two services have already inducted 15 of these choppers in their fleet in the last 15 months after holding trials in the most extreme weather conditions and terrain in the world.

"The Indian Air Force as the lead service has moved a proposal to the government for buying 156 more Prachand choppers as a joint acquisition case which is likely to get approved soon," senior defence officials told ANI.

Recently, Indian Air Force chief Air Chief Marshal VR Chaudhari had announced from foreign soil about the force's intent to buy around 100 more Light Combat Aircraft Mark 1A to push indigenisation.

The combined total of the two projects in terms of worth is over Rs 1.5 lakh crore.

Of the 156 choppers, 66 would be inducted by the Indian Air Force while the rest 90 would be acquired by the Indian Army.

Meeting the Indian Air Force requirement of being a completely Indian Designed, developed and manufactured weapon system, the Prachand has been extensively test-flown by Hindustan Aeronautics Ltd (HAL).

The attack helicopter has been built as per the requirements of the Indian armed forces to operate both in desert terrains and high-altitude sectors.

Prachand is the world's only attack helicopter that can land and take off at an altitude of 5,000 metres (16,400 ft), which makes it ideal to operate in the high-altitude areas of the Siachen glacier and Eastern Ladakh.

It is also capable of firing a range of air-to-ground and air-to-air missiles and can destroy air defence operations of the enemy.

It is also going to be equipped with newer Dhruvastra air-to-ground missiles which can destroy hardened shelters of the enemy in high altitude as well as other terrain.

The IAF is also buying a significant number of these choppers to keep the machines ready for export requirements and sale to friendly foreign countries.

The number of these choppers in the services is expected to go beyond 300 to meet full military requirements and is also expected to find buyers in the export markets soon.

<https://economictimes.indiatimes.com/news/defence/iaf-to-buy-156-more-prachand-light-combat-choppers-for-deployment-along-china-pak-border/articleshow/104045033.cms>

Sun, 01 Oct 2023

## Northern Army Command Conducts Two-day Army Air Defence Conclave

Northern Army Command conducted a two-day Army Air Defence Conclave to review joint strategies for a comprehensive approach to counter evolving air threats and ensure national security.

The Dhruva Command conducted a two-day DHRUVA Air Defence Conclave 2023 in Jammu and Kashmir on September 29 and September 30, 2023.

"Domain experts from Army Air Defence, Indian Air Force, and Defence Public Sector Undertakings (DPSUs) brainstormed and reviewed joint strategies for a comprehensive approach to counter evolving air threats and ensure national security," posted Northern Army Command of the Indian Army on X.

Northern Army Commander Lt Gen Upendra Dwivedi witnessed the equipment display and interacted with the participants.

The conclave was held in the backdrop of the evolving air threats in the region, including the increasing use of drones and unmanned aerial vehicles (UAVs) by adversaries.

The participants discussed a range of issues related to air defence, including threat assessment, sensor integration, weapon system integration, and command and control.

<https://www.aninews.in/news/national/general-news/northern-army-command-conducts-two-day-army-air-defence-conclave20231001143446/>

Mon, 02 Oct 2023

## Government has no Plans to Close Defence PSUs: Giridhar Aramane

Defence Secretary Giridhar Aramane said here on Sunday that the government has no plans to close any Defence Public Sector Undertaking (DPSUs). In fact, it gave 95 per cent of the orders to Indian industries last year to generate employment, he pointed out.

The government has allocated 75 per cent of the orders to Indian industries, which will increase after this year's budget. After inspecting the BEML Mysuru plant and launching the 'Swachhta Hi Sewa' campaign here, he said, "I hope Indian companies are equipped to measure up to the expectations of the Prime Minister."

He said Narendra Modi told him in December 2021 that if they want to provide employment to Indians, it is essential to spend money on Indian industries and manufacturing within the country. He said the Mysuru BEML unit will not be closed as long as it remains a PSU. On the BEML unit in KGF, he said that too will not be closed till it is profitable and viable.

On steps taken to encourage R&D activities, he said the Defence Research Development Organisation is the primary agency that conducts research in the defence sector. The government has allocated Rs 25,000 crore for research activities among PSUs, startups and private companies.

He said they are also thinking of launching the Athithi scheme, where the focus will be on complex defence technologies, where higher grants will be provided to private companies. The defence ministry has tied up with the R&D ecosystem of US industries to come up with new innovations in the defence sector, he added. He said BEML has a great potential in the Metro rail business and Railways, which is seeing a rapid expansion of Vande Bharat services. The central government is converting all tracks into highspeed and electric, which will give scope for BEML to supply to the Railways, he added.

He said there are huge opportunities in the defence sector for companies like BEML that have alert management and staff. He said the BEML and its CMD should identify areas where they can achieve excellence and said efficiency and productivity should be maintained.

<https://www.newindianexpress.com/states/karnataka/2023/oct/02/government-has-no-plans-to-closedefence-psus-giridhar-aramane-2620034.html>



*Sun, 01 Oct 2023*

## **Defence, Tech in Focus at Bilateral Meetings**

External affairs minister S Jaishankar and US secretary of defence Lloyd Austin shared perspectives on security issues in East Asia and the Indian Ocean region, while focusing on deepening defence industrial cooperation, logistical and operational synergy, and defence innovation initiatives.

Jaishankar visited the Pentagon on Friday for a bilateral with Austin, who was in Delhi in June and will be in India in November for the upcoming 2+2 dialogue between the foreign and defence ministers of both countries.

India's other focus during Jaishankar's visit to Washington DC was technology and commerce, with the minister also meeting secretary of commerce Gina Raimondo, who was in Delhi in March for the bilateral commercial dialogue and the CEOs forum.

Both Austin and Raimondo are key champions of the India relationship, and there has been substantial progress under the defence and tech cooperation pillars of the initiative on critical and emerging technology this year. Besides them, Jaishankar had met two other cabinet members — Secretary of State Antony J Blinken and US Trade Representative Katherine Tai — and national security adviser Jake Sullivan on Thursday.

On the meeting with Austin, Jaishankar posted on X, "Productive conversation on our bilateral defence cooperation. Useful exchange on global security challenges."

But the Pentagon offered a more detailed readout, with the spokesperson stating that the two had "exchanged perspectives on a variety of security issues, including recent developments in East Asia and the Indian Ocean region". "Secretary Austin and Minister Jaishankar discussed opportunities to deepen bilateral defense cooperation, including expanded defense industrial cooperation and co-production of defense articles; streamlined logistics procedures to enhance operational cooperation; and continued implementation of the India-U.S. Defense Acceleration Ecosystem (INDUS-X)", the department of defence said.

The meeting between the ministers just comes days after Indian and American officials held the US-India 2+2 Intersessional dialogue, which, according to the Pentagon, “advanced a wide range of ambitious initiatives”, including defence and security, emerging technologies, people-to-people ties, clean energy, and supply chain resilience. The US and India had reviewed the progress under the defence industrial cooperation roadmap, welcomed progress on new co-production initiatives, committed to expeditiously conclude negotiations on Security of Supply Arrangement and Reciprocal Defense Procurement agreements, discussed opportunities to further strengthen interoperability and logistics cooperation, “including through combined maritime engagements in the Indian Ocean region”, and expanding cooperation in the space and cyber domains.

Jaishankar also attended a meeting with the US defence industry hosted by the US-India Business Council on Friday. He tweeted, “Discussed how strategic convergence, technology collaboration and easier to do business are coming together to transform our defence partnership.”

On the meeting with Raimondo, whose department handles commerce but under whose ambit falls a range of tech-related policy issues including export controls and the wide array of semiconductor initiatives as the key agency to implement the domestic Chips Act, Jaishankar posted on X, “We appreciated the significant progress in technology collaboration and economic partnership this year. Agreed to enhance their momentum.”

The minister also attended a lunch hosted by the US India Strategic Partnership Forum (USISPF), chaired by Mukesh Aghi, on Thursday. The minister had said that they had a “focused discussion on India-US collaboration on critical and emerging tech and creating resilient supply chains”. He added that he was glad to know that India was a “major talking point” in corporate boardrooms and bilateral cooperation offered more possibilities with each passing day.

<https://www.hindustantimes.com/india-news/defence-tech-in-focus-at-bilateral-meetings-101696099559412.html>

## THE TIMES OF INDIA

Sat, 30 Sep 2023

### **Ukraine Hosts a Defence Industry Forum Seeking to Ramp up Weapons Production for the War**

Ukraine hosted an international defence industry conference as part of a government effort to ramp up weapons production within the country to repel Russia's full-scale invasion and reduce foreign dependence on arms deliveries. The event marked a new development in support of Ukraine, with the previous focus being on the delivery of weapons, repair of damaged equipment and military training of Ukrainian soldiers.

President Volodymyr Zelenskyy, speaking at the opening of the international defence industries forum, said that around 250 defense companies from more than 30 countries had gathered Friday in Kyiv. Defence ministers and representatives of several countries also attended the event.

"Heroism alone cannot intercept missiles. Ukraine needs capabilities, high quality, high quantity, and quickly. There is no defence without industry," said Nato Secretary General Jens Stoltenberg, who spoke by video link during the forum on the day after his visit to Kyiv.

Stoltenberg said that Wendy Gilmour, who is Nato's assistant secretary general for defence investments, was representing the trans-Atlantic alliance at the event.

Stoltenberg acknowledged that many allies have significantly depleted their stocks in order to support Ukraine. "This was the right thing to do, but now we need to ramp up production, both to meet Ukraine's needs and to ensure our own deterrence in events," he said. Zelenskyy disclosed the details of his recent trip to Washington, where he agreed with US president Joe Biden on "the establishment of a new industrial ecosystem that will strengthen both Ukraine and all the partners". Zelenskyy described it as "one of the key outcomes" of his negotiations with Biden in Washington.

Zelenskyy's chief of staff, Andriy Yermak, said that there will be meetings soon with representatives from the US "to determine the road map of cooperation with the partners about localisation of production, specifically in Ukraine".

During the forum, Zelenskyy announced the creation of the defence industries alliance and added that 13 defence companies have already signed the corresponding declaration.

To support the cooperation and develop an industry complex, Ukraine plans to establish a special fund, which will be paid into through dividends from state defence resources and profits from the sale of confiscated Russian assets, Zelenskyy said.

Foreign minister Dmytro Kuleba said the first talks about joint production with allies began last fall. "At first, we were talking about repairs within Ukraine, and then about joint production. And now, this topic is prevalent everywhere," said Kuleba.

According to Kuleba, in discussions with the partners, there is also a tremendous interest in the experience and production capabilities of Ukrainian businesses.

"Just as we have benefited from western weapons, western arms manufacturers also gain unique advantages in the market to improve their models and create even more powerful weapons," Kuleba said.

Ukraine's recently appointed defense minister, Rustem Umerov, said the country must do everything possible to produce all the necessary military services and products in Ukraine for the needs of its army. The other priority is the development of defence technologies that now play an important role on the battlefield.

"Our vision is to develop world-class military products," Umerov said.

<https://timesofindia.indiatimes.com/world/europe/ukraine-hosts-a-defence-industry-forum-seeking-to-ramp-up-weapons-production-for-the-war/articleshow/104064614.cms>



*Mon, 02 Oct 2023*

## **Philippines, Allies Kick off Naval Drills amid Asia-Pacific Tension**

Forces from Manila, Britain, Canada, Japan and the United States kicked off on Monday two weeks of joint naval exercises in Philippine waters as a "show of force", amid flaring regional tension.

With more than 1,800 participants, the drills follow last week's move by Beijing to block Philippine fishermen from Asia's most contested maritime feature, the Scarborough Shoal, held by China in the South China Sea.

This year's "Sama Sama" drills are being held in the southern part of the island of Luzon, featuring naval exercises in areas such as anti-submarine warfare, air defence and search and rescue, the Philippine navy said.

With this show of force and active engagement of our allies and partners, 'Sama Sama' transcends mere military exercises," Philippine navy chief Rear Admiral Toribio Adaci said at the opening event.

"It is a symbol of our enduring partnerships and our shared commitment to security and stability in the Asia-Pacific region."

In his remarks, Vice Admiral Karl Thomas, the commander of the U.S. Navy's Seventh Fleet, said, "It is important that all nations have a right to sail and operate in the West Philippine Sea, free from ... being coerced, free from being intimidated."

The West Philippine Sea refers to the portion of the South China Sea claimed by Manila.

Five vessels, two from the United States, and one each from Britain, Canada and Japan, joined the Philippine-hosted drills that will run until Oct. 13.

The navies of Australia, France, Indonesia and New Zealand also joined in by sending observers and experts.

"I am confident that no potential aggressor should be under any illusion other than this is a strong team of nations, a strong team of navies ... one navy sailing and operating together," Thomas added.

<https://www.reuters.com/world/asia-pacific/philippines-allies-kick-off-naval-drills-amid-asia-pacific-tension-2023-10-02/>

## Science & Technology News



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

**Ministry of Science & Technology**

*Fri, 29 Sep 2023*

### **India's NavIC will now be Supported by 'Made in India' Chipsets**

For the first time the chipsets or microchips which are capable of receiving and processing the signals of the indigenous navigational system NavIC will be designed and manufactured in India by an Indian company.

NavIC is a satellite based navigational system, developed by Indian Space Research Organization (ISRO), which enables users to determine their precise geographic location and track their movements anywhere in India and 1500 kms beyond India's territorial boundary.

Not all smartphones and navigational gadgets (or navigators) are compatible with NavIC. To use and decode NavIC signals, a navigating gadget should have a NavIC compatible chipset or



microchip incorporated inside it. The receivers of NavIC signals such as NavIC compatible smartphones and other navigators, typically incorporate these chipsets or microchips which are designed to decode and process the signals coming from the seven Indian satellites. Currently, they have been using chipsets made by foreign companies such as Qualcomm Technologies of USA and Mediatek Inc. of Taiwan.

Ministry of Science & Technology and Ministry of Electronics & Information Technology, the two ministries of the Government of India, are jointly collaborating with a Hyderabad based firm, - Manjeera Digital Systems Private Limited, to facilitate the designing and commercial production of these chips in India. The company has designed baseband processor chip that uses indigenously developed Universal Multifunctional Accelerator (UMA) processor IP, which has ability to receive, read and process the NavIC signals. These chipsets will soon go into large-scale commercial production.

Manjeera Digital Systems is a fabless semiconductor company with a patented High Performance Computing (HPC) processor called UMA. This home-grown product enables navigation as well as tracking and can be used for both commercial and civilian purposes. In the Department of Science and Technology, Government of India, the initiative is supported by the Technology Development Board.

Prime Minister Shri Narendra Modi's vision of an Atmanirbhar Bharat has been the guiding force behind such initiatives of indigenously producing state-of-the-art technologies. The initiative is not only a testament of the indigenization of state-of-the-art technologies but also a morale booster for public-private partnerships in the country.

Minister of State for Science and Technology Dr Jitendra Singh, as the visionary leader at the helm of the Department of Science & Technology, is playing a pivotal role in driving the development of this groundbreaking indigenous Chipset technology. His unwavering commitment to self-reliance in space technology and fostering innovations in IT is not only facilitating this remarkable initiative but also underscoring the crucial role of the government support in advancing space technology for the benefit of the society. The minister's leadership and dedication stands as a testament to the transformative potential of collaboration between the government and the private sector in advancing technological breakthroughs.

NavIC, or the Navigation with Indian Constellation, is a magnificent gem in the crown of India's technological prowess. With celestial grace and precision, NavIC illuminates our skies and will soon guide travelers and explorers with unwavering accuracy. It comprises a constellation of seven satellites orbiting high above, weaving a celestial tapestry of signals that empower navigation, positioning and timing across the vast Indian subcontinent and beyond. NavIC system primarily uses IRNSS (Indian Regional Navigation Satellite System) signals for navigation and positioning. These signals are transmitted by a constellation of satellites in geostationary and geosynchronous orbits. NavIC is like GPS in its functioning and operational principles. The only difference being GPS is owned and operated by United States government while NavIC is owned and operated by India. NavIC covers all of Indian subcontinent and offers a positional accuracy of 5 mtrs compared to 15-20 mtrs of GPS.

NavIC is India's beacon of self-reliance, shining brightly in the world of satellite navigation, and now the indigenously built NavIC enabled chipsets will make it a truly 'Made in India' marvel.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1962180>

## **ISRO Begins Preparation for India's 2nd Mission to Mars**

India is readying to send another spacecraft to Mars, officials of the Indian Space Research Organisation have said, nine years after it created history by successfully placing a rocket on orbit around the red planet on its first attempt.

The Mars Orbiter Mission-2, informally known as Mangalyaan-2, would carry four payloads, according to documents accessed by HT. The scientific instruments will study aspects of Mars, including interplanetary dust, and the Martian atmosphere and environment.

“All of these payloads are in different stages of development,” an official said, declining to be named.

Nine years ago on September 24, India created history by entering the orbit of Mars in its first attempt, a feat that had not been accomplished by any other space agency till then.

The second mission will carry a Mars Orbit Dust Experiment (MODEX), a Radio Occultation (RO) experiment, an Energetic Ion Spectrometer (EIS) and a Langmuir Probe and Electric Field Experiment (LPEX), according to the mission document.

MODEX will help understand the origin, abundance, distribution and flux at high altitudes on Mars, the mission document said. “There are no measurements of Interplanetary Dust Particles (IDPs) at Mars. The instrument can detect particles of size from a few hundred nm to few  $\mu\text{m}$ , travelling at hypervelocity ( $> 1 \text{ km/s}$ ). The outcomes can help explain the dust flux at Mars, whether there is any ring (as hypothesized) around Mars and also confirm whether the dust is interplanetary or coming from Phobos or Deimos (the two moons of Mars). The study of dust can help explain the RO experiment results,” it said.

The RO experiment is being developed to measure neutral and electron density profiles. The instrument is essentially a microwave transmitter operating at X-band frequency that can help understand the behaviour of the Martian atmosphere.

The space agency is also developing an EIS to characterise solar energy particles and supra-thermal solar wind particles at the Martian environment. This will help scientists understand the factors behind the loss of the Martian atmosphere. The instrument will measure high-energy charge particles.

The LPEX will enable measurement of electron number density, electron temperature and electric field waves, all of which will give a better picture of the plasma environment on Mars. “LPEX experiment consists of one Langmuir probe (LP) and two electric field (EF) sensors each mounted on a long boom,” the document said.

The first Mars orbiter mission was India's first interplanetary initiative. It was launched on-board the Polar Satellite Launch Vehicle PSLV-C25 on November 5, 2013. With the success of this mission, the space agency became the fourth in the world to place a spacecraft on Mars orbit, and the first to do so in its first attempt. Though the mission was designed to have a life of six months, it completed seven years in orbit in 2021 before it was retired.

The objectives of the first mission were technological to showcase the design, realisation and launch of a Mars orbiter spacecraft capable of operating with sufficient autonomy during the journey to the red planet, to insert the craft into Mars orbit, and capture and complete the in-orbit phase around Mars.

The first Mars mission carried five scientific payloads to study the planet's surface features, morphology, mineralogy and atmosphere.

<https://www.hindustantimes.com/india-news/isro-begins-preparation-for-india-s-2nd-mission-to-mars-101696188317198.html>



*Mon, 02 Oct 2023*

## **Katalin Karikó, Drew Weissman Win Nobel Prize in Medicine for Role in Covid-19 Vaccines**

Katalin Karikó and Drew Weissman were jointly awarded the 2023 Nobel Prize in Physiology or Medicine on Monday for their groundbreaking contributions to the development of highly effective mRNA vaccines against COVID-19. The prestigious recognition underscores the critical role of their discoveries related to nucleoside base modifications in enabling the rapid creation of these vaccines during the pandemic.

The official statement said the transformative impact of the Nobel Laureates' findings on how mRNA interacts with the immune system, led to the unprecedented pace of vaccine development during one of the most significant health crises in recent history.

Vaccination triggers the formation of an immune response against specific pathogens, providing the body with a crucial defence mechanism in the face of future exposure.

### **Who is Katalin Karikó?**

Katalin Karikó, born in 1955 in Szolnok, Hungary, earned her PhD from Szeged University in 1982. She conducted postdoctoral research at institutions including the Hungarian Academy of Sciences, Temple University in Philadelphia, and the University of Health Science in Bethesda.

In 1989, she became an Assistant Professor at the University of Pennsylvania, later assuming leadership roles at BioNTech RNA Pharmaceuticals.

Since 2021, she has held the position of Professor at Szeged University and Adjunct Professor at the Perelman School of Medicine at the University of Pennsylvania.

### **Who is Drew Weissman?**

Drew Weissman, born in 1959 in Lexington, Massachusetts, USA, obtained his MD and PhD degrees from Boston University in 1987. He underwent clinical training at Beth Israel Deaconess Medical Center at Harvard Medical School and completed postdoctoral research at the National Institutes of Health.

In 1997, Weissman established his research group at the Perelman School of Medicine at the University of Pennsylvania, where he currently serves as the Roberts Family Professor in Vaccine Research and the Director of the Penn Institute for RNA Innovations.

### **What are Nobel Prizes?**

These annual Nobel Prizes, spanning physics, chemistry, medicine, literature, and peace, originate from the will of Alfred Nobel, the Swedish dynamite inventor who passed away in 1896. In 1968, Sweden's central bank introduced the Nobel Prize in Economic Sciences.

The Nobel laureates for these esteemed awards are unveiled in Stockholm throughout October, with the exception of the Peace Prize, which is determined by the Norwegian Nobel Committee in Oslo.

<https://www.hindustantimes.com/science/katalin-karik-drew-weissman-win-nobel-prize-for-mrna-covid-19-vaccine-101696240333636.html>



*Tue, 03 Oct 2023*

## **R21/Matrix-M: WHO Recommends Malaria Vaccine Made by Oxford and Serum Institute of India**

The R21/Matrix-M malaria vaccine developed by the University of Oxford and the Serum Institute of India has been recommended for use by the World Health Organisation (WHO) after meeting required safety, quality and effectiveness standards.

The World Health Organization (WHO) recommended on Monday the use of a second malaria vaccine to curb the life-threatening disease spread to humans by some mosquitoes.

"Today, it gives me great pleasure to announce that WHO is recommending a second vaccine called R21/Matrix-M to prevent malaria in children at risk of the disease," WHO chief Tedros Adhanom Ghebreyesus told a briefing in Geneva on Monday, Reuters reported.

### **R21/Matrix-M: When will the second vaccine for malaria be available?**

R21/Matrix-M, developed by Britain's University of Oxford, will become available by mid-2024, Tedros said, adding that doses would cost between \$2 and \$4.

"WHO is now reviewing the vaccine for prequalification, which is WHO stamp of approval, and will enable GAVI (a global vaccine alliance) and UNICEF to buy the vaccine from manufacturers," Tedros said, as quoted by Reuters.

"The recommendation was based on pre-clinical and clinical trial data which showed good safety and high efficacy in four countries, at sites with both seasonal and perennial malaria transmission, making it the world's second-ever WHO recommended vaccine for preventing malaria in children," Serum Institute of India said in a statement.

Dr Lisa Stockdale, Senior Immunologist, The Jenner Institute, University of Oxford said "Today's news is a testament to the work of our small but dedicated team and means we have another tool with which to fight this disease that kills over half a million people every year. However, further work is critical to establish not just that the vaccine works, but to understand more about how it works, and apply that knowledge to future vaccines."

Adar Poonawalla, CEO of the Serum Institute of India, said "For far too long, malaria has threatened the lives of billions of people across the globe, disproportionately affecting the most vulnerable amongst us. This is why the WHO recommendation and approval of the R21/Matrix-M vaccine marks a huge milestone on our journey to combat this life-threatening disease, showing what exactly can be achieved when the public and private sector, scientists and researchers, all work together towards a shared goal."

The vaccine was developed by the Jenner Institute at Oxford University and Serum Institute of India with support from the European and Developing Countries Clinical Trials Partnership ('EDCTP'), the Wellcome Trust, and the European Investment Bank ('EIB').

R21/Matrix-M malaria vaccine will compete against the RTS,S shot by GSK Plc, which was recommended by the United Nations agency in 2021 and sold under the brand Mosquirix.

Malaria kills over 600,000 each year globally, most of them children in Africa.

<https://www.livemint.com/science/health/r21matrixm-who-recommends-malaria-vaccine-made-by-oxford-and-serum-institute-of-india-11696293735838.html>

