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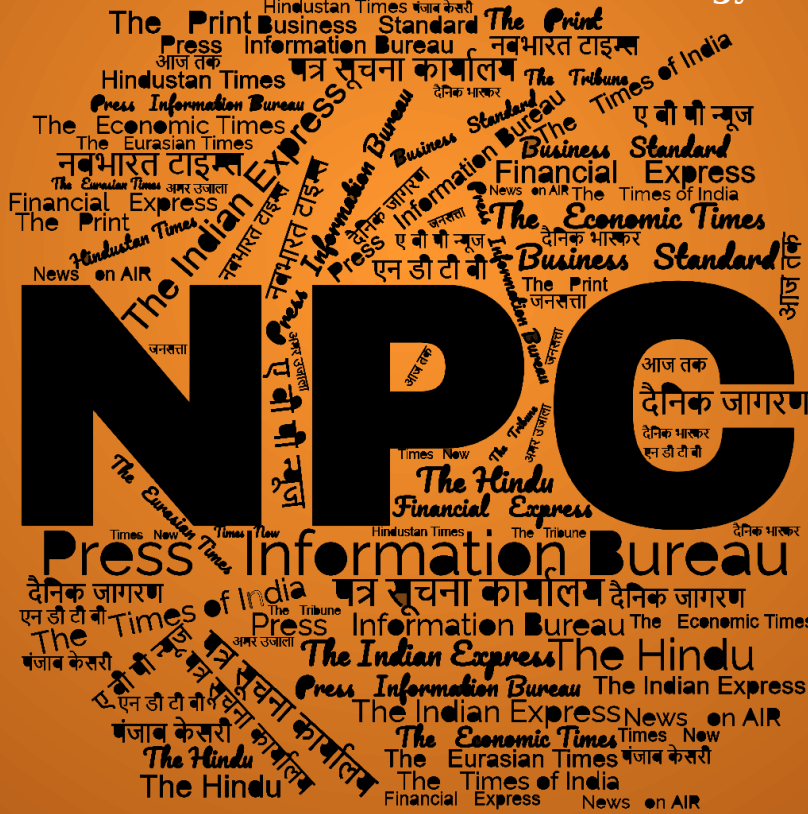
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# समाचार पत्रों से चयित अंश Newspapers Clippings

डीआरडीओ समुदाय को डीआरडीओ प्रौद्योगिकियों, रक्षा प्रौद्योगिकियों, रक्षा नीतियों, अंतर्राष्ट्रीय संबंधों और विज्ञान एवं प्रौद्योगिकी की नूतन जानकारी से अवगत कराने हेतु दैनिक सेवा

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### कार्गो प्लेन से 20 टन वजनी सामान गिराया जा सकेगा:परीक्षण सफल, पहाड़ी और सीमावर्ती इलाकों में इक्विपमेंट्स की पैरा ड्रॉपिंग की जाएगी

इंडियन एयरफोर्स (IAF) ने हाल ही में एक कार्गो प्लेन से हैवी ड्रॉप सिस्टम की सफल टेस्टिंग की। यह सिस्टम पूरी तरह से देश में ही डेवलप किया गया है। इसका नाम टाइप वी हैवी ड्रॉप सिस्टम है। इससे एयरफोर्स 20 टन तक वजनी वाहन और इक्विपमेंट्स को पैरा ड्रॉप कर सकेगा।

एयरफोर्स के अफसरों ने बताया कि इस सिस्टम को आगरा के एरियल डिलीवरी रिसर्च एंड डेवलपमेंट इस्टैब्लिशमेंट (ADRDE) ने डिजाइन और डेवलप किया है। एयरफोर्स इससे पहले भी इस तरह के सिस्टम का इस्तेमाल करता रहा है, लेकिन वो स्वदेशी नहीं हैं।

ADRDE ने खास तौर पर यह सिस्टम एयरफोर्स के लिए डेवलप किया है। इसकी मदद से अब पहाड़ी इलाकों में तैनात जवानों को हथियार, खाना, जीप और ट्रक आसानी से पहुंचाया जा सकता है।

#### हैवी ड्रॉप सिस्टम एल्यूमीनियम से बना है

हैवी ड्रॉप सिस्टम का प्लेटफॉर्म एल्यूमीनियम और स्टील को मिलाकर बना है। इसका वजन करीब 1,110 किलो है। यह सिस्टम 7 हजार किलो रसद लेकर 260-400 KM प्रति घंटे की ड्रॉप गति पर काम करता है।

हैवी ड्रॉप सिस्टम-16T और 20T को आईएल-76 हैवी लिफ्ट विमान के लिए बनाया गया है। यह 20 टन तक वजन वाले सैन्य कार्गो को सुरक्षित और सटीक पैराड्रॉप करने में सक्षम बनाता है। इसमें बीएमपी वाहन, आपूर्ति और गोला-बारूद शामिल हैं। यह मैदानी इलाकों, रेगिस्तानों और ऊंचाई वाले क्षेत्रों में उतर सकता है।

#### ट्रांसपोर्ट विमानों के आधार पर हैवी ड्रॉप सिस्टम के वैरिएंट तैयार किए गए

मीडिया रिपोर्ट्स के मुताबिक, ADRDE ने AN-32, IL-76 और C-17 ग्लोबमास्टर जैसे ट्रांसपोर्ट विमानों के लिए हैवी ड्रॉप सिस्टम के अलग-अलग वैरिएंट तैयार किए हैं। जैसे 3 टन, 7 टन, 16 टन और 20 टन। तीन और सात टन वाला सिस्टम भारतीय सेना और नौसेना के लिए है।

#### क्या होता है हैवी ड्रॉप सिस्टम?

हैवी ड्रॉप सिस्टम का इस्तेमाल 20 टन वजन वर्ग के सैनिक वाहन, गोला-बारूद, इक्विपमेंट्स को पैराशूट से नीचे गिराने के लिए किया जाता है। आईएल-76 विमान के लिए हैवी ड्रॉप सिस्टम (पी-7 HDS) में एक प्लेटफॉर्म और विशेष पैराशूट सिस्टम शामिल होता है।

पैराशूट सिस्टम एक मल्टी-स्टेज पैराशूट सिस्टम है, जिसमें पांच मुख्य कैनोपी, पांच ब्रेक शूट, दो सहायक शूट, एक एक्सट्रैक्टर पैराशूट शामिल हैं। इस सिस्टम को 100 फीसदी स्वदेशी संसाधनों के साथ डेवलप किया गया है। पी-7 HDS को सेना में शामिल कर लिया गया है। पी-7 हैवी ड्रॉप सिस्टम का निर्माण एलएंडटी कंपनी कर रही है। पैराशूट ऑर्डिनेंस फैक्टरी बना रही है।

## पैराशूट पर तेल और पानी का असर नहीं होगा

पैराशूट पर तेल और पानी का कोई असर नहीं होता है और इन्हें लंबे समय तक इस्तेमाल भी किया जा सकता है। DRDO काफी लंबे समय से इस सिस्टम को बनाने की तैयारी कर रहा था। पिछले करीब पांच सालों से हैवी ड्रॉप सिस्टम की टेस्टिंग की जा रही है।

<https://www.bhaskar.com/national/news/indian-air-force-iaf-type-v-heavy-drop-system-testing-update-131838721.html>



*Thu, 14 Sep 2023*

## **DRDO Shines at the 3<sup>rd</sup> All India Rajbhasha Sammelan 2023 in Pune**

The Defence Research and Development Organization (DRDO) added another accolade to its list of achievements during the Third All India Rajbhasha Sammelan held in Pune, Maharashtra, on Hindi Day, September 14, 2023. DRDO, known for its contributions to various fields, once again demonstrated its commitment to the promotion of the Hindi language.

The prestigious event, graced by distinguished guests, official language officers, and personnel from across the nation, witnessed three significant accomplishments by DRDO. Under the esteemed guidance of Union Minister of State for Home, Ajay Mishra, and Deputy Chairman of Rajya Sabha, Harivansh Narayan Singh, the book 'Atulya Kalam,' edited by DRDO, was unveiled.

This book pays homage to the former President and the founding figure of DRDO, Dr. APJ Abdul Kalam, compiling memoirs and reflections on his illustrious life. Dr. Shailendra V Gade, Distinguished Scientist and Director General (ACE), and Dr. Ravindra Singh, Distinguished Scientist and Director Official Language, were among the distinguished guests who graced the occasion.

In a related development, the home magazine of the Artificial Intelligence and Robotics Center, situated in "C" area, Bengaluru, known as "Suvigya," clinched the second prize in the Rajbhasha Kirti Award category for Home Magazines. The award was received by Dr. Rituraj, Director of the Center for Artificial Intelligence and Robotics, Bengaluru.

DRDO continued its linguistic contributions with the release of another book titled "Nagri Nirali," a compilation of 75 poems celebrating the Hindi language. Some of these poems were brought to life through composition, and the accompanying CD was also released during the event. Asha Tripathi "Kshama" served as the editor of this book and presented copies to the esteemed guests.

Notable personalities, including Minister of State for Home Ajay Mishra, Deputy Chairman of Rajya Sabha Dr. Harivansh, and several other distinguished guests, visited the DRDO stall and lauded the organization for its commendable efforts in promoting the official language.

The conference's nodal officer appointed by DRDO, Mridukant Pathak, Scientist F, provided comprehensive information about the organization's participation and contributions to the event. DRDO's unwavering commitment to promoting the Hindi language and culture has once again earned recognition and acclaim on a national stage.

<https://www.punekarnews.in/drdo-shines-at-the-3rd-all-india-rajbhasha-sammelan-2023-in-pune/>

# Defence Strategic: National/International



Press Information Bureau  
Government of India

Ministry of Defence

Thu, 14 Sep 2023

## Ministry of Defence Leads as Top Procurer on Government e-Marketplace (GeM); Contributes 16 Percent of the Overall Gross Merchandise Value

**Procurement through GeM reaches over Rs. 18,790 Cr in the current Financial Year 2023-24**

The Ministry of Defence has emerged as the leading Ministry amongst a total of 56 Ministries/Departments participating in the Government eMarketplace (GeM), holding the top position in both order value and order quantity. Since its inception, the Ministry has contributed significantly to the Gross Merchandise Value (GMV) of GeM, which has reached an impressive Rs. 73,225.30 Cr as of 12 September 2023.

In the current financial year, the procurement through GeM has already reached an impressive Rs. 18,790.60 Cr as of 12 September 2023. The order value of the Ministry in fiscal year 2022-23 was Rs. 28,732.90 Cr, while it amounted to Rs. 15,091.30 Cr in the fiscal year 2021-22. Under the aegis of the Department of Defence Production, the Defence Public Sector Undertakings (DPSUs) had sold Goods and Services worth Rs. 2,642.66 Cr on GeM in FY 2022-23.

The significant milestone of procuring goods and services worth over Rs. 18,000 Cr, underscores an outstanding average daily order value of Rs. 109 Cr in the current financial year. The remarkable achievement in the current fiscal results from the active participation of more than 19,800 buyers across the country, collectively placing over 3 lakh orders.

The Ministry of Defence's contribution to the overall GMV of GeM has consistently remained strong, standing at approximately 15% since its inception and increasing to 16% for the current financial year. Furthermore, since inception, out of the 17,026,945 orders placed on GeM, the MoD has played a significant role, accounting for nearly 28% of a total of 4,761,585 orders.

The GeM was started in August 2016 to revamp the old tender process and bring greater probity and transparency in government procurement through digitisation. In the last seven years since its inception, the MoD has been committed towards the digital drive.

The MoD's impressive procurement through GeM underlines the platform's effectiveness and efficiency in facilitating transparent and streamlined procurement operations. The widespread embrace of GeM by various defence entities further underscores its success in simplifying and enhancing the overall procurement landscape.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1957417>

## **Navy Day 2023 to be Celebrated at Sindhudurg Fort, Built by Shivaji in 17th Century**

In line with the new tradition of the tri-services organising their flagship ceremonial events outside the national capital, Navy Day celebrations this year will be held at the iconic Sindhudurg Fort off the Maharashtra coast, built by Maratha ruler Chhatrapati Shivaji Maharaj in the 17th century, officials aware of the matter said on Thursday.

India celebrates Navy Day on December 4 to commemorate the Indian Navy's attack on the Karachi harbour during the 1971 war against Pakistan.

Navy Day was celebrated in Visakhapatnam last year, the first time it was taken outside New Delhi. The Indian Army and the Indian Air Force organised their annual parades in Bengaluru and Chandigarh last year. This year's Air Force Day parade will be held at Prayagraj in Uttar Pradesh on October 8.

"Navy Day was celebrated on the east coast last year. This year, the celebrations will be organised on the west coast. The venue has been chosen carefully and the Sindhudurg Fort meets the navy's requirements to conduct an operational demonstration of its frontline assets. It also has rich maritime history," said one of the officials cited above, asking not to be named.

The Sindhudurg Fort was built in the 1660s.

Last year, Prime Minister Narendra Modi unveiled the navy's new ensign at the commissioning ceremony of aircraft carrier INS Vikrant, with the flag drawing inspiration from the seal of the Maratha king, dropping the Cross of St George. The PM called it 'getting rid of the burden of a colonial past'.

Key conferences of the armed forces, including the Combined Commanders' Conference, have also been held outside New Delhi after the NDA government came to power nine years ago.

On April 1, Modi assessed the operational readiness of the armed forces in the backdrop of the lingering border row with China, carried out a security review, and asked the military to stay prepared for new and emerging threats at the Combined Commanders' Conference held in Bhopal.

Before that, on March 6, Union defence minister Rajnath Singh addressed the inaugural session of a top navy meeting aboard India's first indigenous aircraft carrier INS Vikrant, the move bringing into greater focus the country's efforts towards achieving self-reliance in the defence manufacturing sector.

The armed forces have sharpened their focus not only on indigenisation of military hardware but also of customs.

The call for doing away with colonial customs and adopting Indian ways in the armed forces was made by the prime minister in March 2021 during the Combined Commanders' Conference at Kevadia in Gujarat when he asked the three services to rid themselves of legacy systems and practices that are no longer relevant.

He had then underlined the importance of enhancing indigenisation in the national security system, not just in sourcing equipment and weapons but also in doctrines, procedures and customs.

In his 2022 Independence Day speech, Modi spoke of the “panch pran”, or five pledges, for India to become a developed country by its 100th year of independence, one of those being to uproot all signs of colonial slavery from our mindset and habits.

In line with the broader directions from the PM, the navy decided in July that its personnel will no longer carry ceremonial batons. Senior officers in command roles, commanding officers of warships, naval bases and other establishments, and provost personnel responsible for policing, vigilance and enforcement of discipline used to carry batons. The navy said the symbolism of power portrayed by holding such batons was a colonial legacy.

Smart traditional Indian wear may also soon be allowed in naval officers’ messes, said a second official.

The defence ministry has also begun a drive to rename British-era cantonments as military stations. It has shared broad modalities with state governments for a proposed separation of civilian areas in 58 cantonments across the country, with the move aimed at bringing uniformity in municipal laws governing these areas and adjoining municipal pockets.

Yol in Himachal Pradesh was the first cantonment to shed the colonial tag and be renamed as a military station in April 2023. That was the first step in the drive to merge civilian areas in cantonments, created during the British era, with municipal corporations and municipalities, and designate them as military stations.

<https://www.hindustantimes.com/india-news/navy-day-2023-to-be-celebrated-at-sindhudurg-fort-built-by-shivaji-in-17th-century-101694668528865-amp.html>



*Fri, 15 Sep 2023*

## **C-295 may be Part of Air Force Day Flypast; Gujarat to House 1st Squadron**

The Indian Air Force (IAF)’s newest transport aircraft, the C-295, is expected to be the centrepiece of the upcoming Air Force Day parade, and the IAF will raise its first squadron of the tactical airlifters at the Vadodara air base in Gujarat, officials aware of the matter said on Thursday, requesting anonymity.

The C-295s will boost the air force’s logistics capabilities to meet mission requirements in forward areas, including those near the contested border with China, and replace its ageing fleet of Avro transport aircraft that entered service in the early 1960s, said one of the officials.

Airbus Defence and Space on Wednesday handed over to the IAF its first C-295 aircraft in Seville, Spain. IAF chief Air Chief Marshal VR Chaudhari took the delivery of the plane, part of a ₹21,935-crore Make in India project to upgrade the IAF’s transport fleet, at a ceremony held at Airbus’s San Pablo site.

The first aircraft, which will be formally inducted into IAF at the Hindan air base on September 25, is likely to take part in this year’s Air Force Day parade to be held at Prayagraj in Uttar Pradesh on October 8, when the IAF celebrates its 91st anniversary, said a second official.

The Air Force Day parade was traditionally held at the Hindan Air base till 2021 before the event was taken outside the national capital. It was held in Chandigarh last year in line with the new tradition of the tri-services organising their flagship ceremonial events in other parts of the country.

The first squadron will be raised in Vadodara as the IAF wants the initial batch of aircraft to be based near the C-295 production facility there. A C-295 squadron will consist of 10 to 12 aircraft, the officials said.

The delivery of the first C-295 came two years after the defence ministry signed a contract with Airbus for 56 planes to boost self-reliance in the defence manufacturing sector. Tata Advanced Systems Limited and Airbus are jointly executing the programme. The European plane maker will deliver 16 planes in flyaway condition, while the rest will be assembled in India at the Tata facility in Vadodara.

IAF's second C-295 is in final assembly at in Seville, and will be delivered in May 2024. The last of the 16 flyaway aircraft will be delivered to IAF by August 2025, while the first "made in India" C-295 will roll out of the Vadodara facility in September 2026 and the remaining 39 by August 2031.

"The delivery of the first plane marks the beginning of a new era wherein we will be manufacturing 40 of these aircraft in India. This starts a new era where we will be manufacturing military aircraft completely in India," Chaudhari said on Wednesday.

The production of components of these aircraft has already started at the main constituent assembly for the C-295 set up by Tata at Hyderabad, while the final assembly line in Vadodara will be operational in November 2024. The Hyderabad facility will focus on manufacturing and assembly of C-295 parts that will go into building the full aircraft at Vadodara.

In October 2022, Prime Minister Narendra Modi laid the foundation stone of the Vadodara facility. The C-295 will be the first military aircraft to be manufactured in India by a private consortium.

<https://www.hindustantimes.com/india-news/c295-may-be-part-of-air-force-day-flypast-guj-to-house-1st-squadron-101694718041750.html>



*Thu, 14 Sep 2023*

## **IAF Chief Holds Bilateral Talks with Spain's Defence Minister in Seville**

Indian Air Force Chief Air Marshal VR Chaudhari held talks with Spain's Defence Minister Margarita Robles and discussed matters pertaining to strengthening the bilateral relationship between both countries. The meeting was held on the sidelines of the IAF chief's visit to Spain to receive made-for-India C-295 transport aircraft from Airbus on Wednesday.

Taking to X, India Air Force informed, "On the sidelines of his visit to formally accept the first C-295 aircraft, the CAS Air Chief Marshal VR Chaudhari called on the Defence Minister of Spain, Ms Margarita Robles. Matters pertaining to strengthening the bilateral relationship between the two countries were discussed during the meeting.

On September 13, the Head of Defence and Aerospace, Airbus, Jean-Brice Dumont gave symbolic keys of the C295 aircraft to IAF chief Air Chief Marshal VR Chaudhari.

IAF Chief Chaudhari on receiving the delivery of the aircraft called it as a major milestone for India and said the induction of aircraft would improve IAF's tactical airlift capabilities. IAF chief Air Chief Marshal VR Chaudhari said, "It is a major milestone not only for IAF but for the whole



country. This is for two reasons - first, for IAF it improves our tactical airlift capabilities. For a nation, it marks the beginning of a new era.”

After receiving symbolic keys from the Airbus officials, the IAF chief marked the occasion as a momentous day and said it is the beginning of a new era.

He said, "It is a momentous day for us, for the IAF in particular and a nation as a whole to be receiving the first aircraft which marks the beginning of a new era, wherein we will be manufacturing 40 of these aircraft in India. This starts a new era where we will be manufacturing military aircraft in India.

"Moreover, on the handing over of C-295 transport aircraft to India, Airbus Head of Defence and Aerospace Jean-Brice Dumont said that Make in India and Prime Minister Modi's Aatmanirbhar Bharat are at the heart of his company and pointed to his team members saying they will have to learn 'Bharat'. The aircraft is the first of 16 C-295 that was produced in Spain and the remaining 40 will be made in an Indian facility in Gujarat's Vadodara under a joint venture of Tata and Airbus.

The aircraft is expected to be inducted formally into the service at a ceremony in Hindan around September last week. The Indian Air Force chief was personally involved in the contract at important stages as Deputy Chief of Air Staff where he was leading the contract negotiations.

Indian Defence Ministry and Airbus Defence and Space, Spain signed a contract for procurement of 56 C-295 aircraft for the Indian Air Force in September 2021. C-295MW aircraft is a transport aircraft of 5-10 Tonne capacity with contemporary technology that will replace the ageing Avro aircraft of the Indian Air Force. The aircraft has a rear ramp door for quick reaction and para dropping of troops and cargo. Sixteen aircraft will be delivered in flyaway condition from Spain within 48 months of signing of the contract and forty aircraft will be manufactured in India by TATA Consortium within 10 years of the signing of the contract.

This is the first project of its kind in which a military aircraft will be manufactured in India by a private company. All 56 aircraft will be installed with an indigenous Electronic Warfare Suite. The project will give a boost to the aerospace ecosystem in India in which several MSMEs spread over the country will be involved in the manufacturing of parts of the aircraft, according to a press release of the Ministry of Defence.

The programme will provide a major boost to the 'Atmanirbhar Bharat Abhiyan' of the Government as it offers a unique opportunity for the Indian Private Sector to enter into a technology-intensive and highly competitive aviation Industry. The project is expected to augment domestic aviation manufacturing resulting in reduced import dependence and an expected increase in exports.

<https://www.aninews.in/news/world/others/iaf-chief-holds-bilateral-talks-with-spains-defence-minister-in-seville20230914193452/>



*Thu, 14 Sep 2023*

## **US and India Forge Innovation Alliance for Defence Advancements in Virtual Summit**

The US Department of Defense (DoD) and the Indian Ministry of Defence (MoD) recently came together for an important virtual meeting, marking a pivotal moment in the India-US Defense Acceleration Ecosystem (INDUS-X) Senior Advisory Group's collaboration.

At this meeting, the discussion was led by Doug Beck, Director of the Defense Innovation Unit (DIU), and Lindsey Ford, Deputy Assistant Secretary for South and Southeast Asia. They co-chaired the event alongside Anurag Bajpai, Joint Secretary (Defence Industries Promotion) of the Indian MoD. The primary focus of this gathering was to explore and advance ongoing projects aimed at fostering innovation. Their goal is to equip the armed forces of both nations with the latest capabilities, ensuring they can effectively safeguard the free and open Indo-Pacific region.

One exciting development is the announcement of the first two joint challenges by DIU and iDEX. These challenges concentrate on enhancing undersea communication and bolstering maritime intelligence, surveillance, and reconnaissance capabilities. Start-ups from both the United States and India will have the opportunity to develop technological solutions to address these common defense challenges. The most promising innovations will receive financial awards, and there is the potential for these solutions to be procured. The challenges are set to be opened to start-ups later this month, sparking a wave of innovation and collaboration.

Inclusivity is a key theme of INDUS-X, and the Senior Advisory Group is keen about involving non-governmental stakeholders. Several notable initiatives have already taken place, furthering the collaboration agenda. On August 25, Hacking4Allies and IIT Hyderabad organized a program to empower 50 Indian start-ups, helping them with commercialization, talent acquisition, and expansion.

Just a few days later, on August 29, Pennsylvania State University and IIT Kanpur united US and Indian academics, government officials, and industry representatives in a virtual gathering. Their aim was to advance discussions related to developing innovation ecosystems in emerging domains such as artificial intelligence, space, and cybersecurity.

Private investors are also making strides in supporting US and Indian defense and dual-use technology start-ups. They are contributing capital to fuel innovation in these sectors. The Senior Advisory Group is committed to facilitating a more substantial two-way flow of capital to promote innovation and integration within their respective private defense sectors.

In conclusion, the recent virtual meeting of INDUS-X's Senior Advisory Group signifies a strong commitment to fostering innovation and collaboration between the United States and India in the realm of defense technology. The announced challenges and initiatives demonstrate a shared determination to address common defense challenges, ultimately strengthening the security of the Indo-Pacific region.

<https://www.financialexpress.com/business/defence-us-and-india-forge-innovation-alliance-for-defence-advancements-in-virtual-summit-3243948/>

## नवभारत टाइम्स

Thu, 14 Sep 2023

### भारत-सऊदी अरब मिलकर बनाएंगे हथियार, रक्षा संबंध भी करेंगे मजबूत, पाकिस्तान की बढ़ेगी धुकधुकी

भारत और सऊदी अरब अपने संयुक्त नौसैनिक अभ्यास के सफल आयोजन के बाद अब सहयोग को और ज्यादा बढ़ा रहे हैं। ऐसे में दोनों देश एक साथ मिलकर अब हथियारों का निर्माण करने वाले हैं। भारत और सऊदी दोनों ने इसे पारस्परिक हित और आशाजनक संभावनाओं वाला क्षेत्र करार दिया है। कुछ दिनों पहले ही सऊदी क्राउन प्रिंस भारत के आधिकारिक दौरे पर थे। इस दौरान उन्होंने न केवल जी20 शिखर सम्मेलन में भाग लिया, बल्कि भारत

और यूरोप के साथ मिलकर मध्य पूर्व आर्थिक गलियारा पर हस्ताक्षर किया। इतना ही नहीं, सऊदी क्राउन प्रिंस ने भारत के साथ द्विपक्षीय वार्ता भी की, जिसमें रक्षा और व्यापार समेत कई मुद्दों पर विस्तार से चर्चा की गई। भारत ने भी सऊदी क्राउन प्रिंस को गार्ड ऑफ ऑनर देकर सम्मानित किया। सऊदी क्राउन प्रिंस के भारत दौरे से पाकिस्तान को पहले से ही मिर्ची लगी हुई है, अब रक्षा सहयोग की बात सुनकर उसकी टेंशन और ज्यादा बढ़ने वाली है।

### **भारत के साथ सैन्य गतिविधि बढ़ाएगा सऊदी अरब**

फाइनेंशियल एक्सप्रेस की रिपोर्ट के अनुसार, विदेश मंत्रालय में सचिव (सीपीवी और ओआईए) डॉ. औसाफ सईद ने बताया कि सऊदी विजन 2030 भारत की क्षमताओं और हितों के अनुरूप स्थानीय मैन्यूफैक्चरिंग पर जोर देता है। अक्टूबर 2019 में प्रधानमंत्री नरेंद्र मोदी की सऊदी अरब यात्रा से मैन्यूफैक्चरिंग सेक्टर के भीतर रक्षा सहयोग पर एक समझौता भी हुआ था। दोनों देशों को आगे के अभ्यासों और द्विपक्षीय और बहुपक्षीय सैन्य गतिविधियों में सऊदी की भागीदारी बढ़ने की उम्मीद है। अपनी वार्ता के समापन पर संयुक्त बयान में प्रधानमंत्री नरेंद्र मोदी और प्रिंस मोहम्मद बिन सलमान बिन अब्दुलअजीज अल सऊद (प्रिंस मोहम्मद बिन सलमान) ने गहन रक्षा सहयोग की सराहना की और संयुक्त अभ्यास, प्रशिक्षण जारी रखने के लिए अपनी प्रतिबद्धता व्यक्त की। इन सहयोगात्मक प्रयासों का उद्देश्य सामान्य हितों की सेवा करना और सुरक्षा और स्थिरता को मजबूत करने में योगदान देना है।

### **हथियारों को साथ मिलकर बनाएंगे भारत और सऊदी अरब**

2021 और 2023 में आयोजित अल मोहम्मद अल हिंदी संयुक्त नौसैनिक अभ्यास एक उल्लेखनीय उपलब्धि थी। दोनों देश इस सफलता को आगे बढ़ाने के लिए तैयार हैं। इसके अलावा उन्होंने जून 2022 में नई दिल्ली में आयोजित रक्षा सहयोग पर संयुक्त समिति की 5 वीं बैठक के परिणामों का स्वागत किया। इस दौरान भारत और सऊदी अरब ने संयुक्त रूप से रक्षा उपकरणों के विकास और उत्पादन की संभावनाओं पर चर्चा की थी। भारत और सऊदी अरब दोनों मित्र देशों में सुरक्षा और स्थिरता सुनिश्चित करने के लिए अपने सहयोग का विस्तार करने की तीव्र इच्छा रखते हैं। संयुक्त बयान में साइबर सुरक्षा, समुद्री सुरक्षा, अंतरराष्ट्रीय अपराध, नशीले पदार्थों और मादक पदार्थों की तस्करी से निपटने जैसे क्षेत्रों में सहयोग बढ़ाने के महत्व पर प्रकाश डाला गया। इसके अलावा, उन्होंने समुद्री कानून पर संयुक्त राष्ट्र कन्वेंशन (यूएनसीएलओएस) के अनुरूप जलमार्गों की सुरक्षा और नेविगेशन की स्वतंत्रता सुनिश्चित करने में सहयोग के महत्व पर जोर दिया।

### **आतंकवाद पर भारत और सऊदी अरब की दो टूक**

भारत और सऊदी अरब ने आतंकवाद को लेकर परोक्ष रूप से पाकिस्तान पर निशाना साधा। दोनों देशों ने कहा कि वे आतंकवाद के खिलाफ लड़ाई में एकजुट हैं। उन्होंने आतंकवाद और टेरर फाइनेंसिंग से निपटने के लिए सुरक्षा सहयोग बढ़ाने पर भी सहमति जताई। दोनों देशों ने माना कि आतंकवाद, अपने सभी रूपों में, मानवता के लिए एक गंभीर खतरा बना हुआ है, और वे नस्ल, धर्म या संस्कृति के आधार पर इसे उचित ठहराने के किसी भी प्रयास को अस्वीकार करते हैं। दोनों पक्षों ने सभी देशों से आतंकवाद को अस्वीकार करने, इसके बुनियादी ढांचे को नष्ट करने और आतंकवादियों को तेजी से न्याय के कटघरे में लाने का आह्वान किया। अन्य देशों के खिलाफ आतंकवादी कृत्यों को अंजाम देने के लिए मिसाइलों और ड्रोन सहित हथियारों तक पहुंच को रोकना भी एक साझा प्राथमिकता है।

### **भारत और सऊदी में बढ़ रहा सैन्य सहयोग**

2022 में रॉयल सऊदी लैंड फोर्स के कमांडर लेफ्टिनेंट जनरल फहद बिन अब्दुल्ला मोहम्मद अल-मुतायर की यात्रा, सैन्य सहयोग को गहरा करने में एक मील का पत्थर साबित हुई। 2020 में, भारतीय सेना प्रमुख ने सऊदी अरब का दौरा किया, जो पहली बार ऐतिहासिक था। खाड़ी क्षेत्र के देश आर्थिक विविधीकरण और रक्षा उद्योग विकास के अपने लक्ष्यों से प्रेरित होकर भारत को एक पसंदीदा भागीदार के रूप में देख रहे हैं। यह बढ़ता हुआ संबंध दोनों पक्षों के साझा हित में है। इसमें आतंकवाद का मुकाबला और जलवायु परिवर्तन को संबोधित करना शामिल है।

## भारत ने सऊदी को दिखाया हथियारों का जखीरा

अपनी चर्चाओं के दौरान, भारतीय सेना के आर्मी डिजाइन ब्यूरो ने ड्रोन, हेलीकॉप्टर, तोपखाने, विशेषज्ञ वाहन, ड्रोन-विरोधी उपायों और मिसाइलों सहित विकास और मूल्यांकन में प्रणालियों पर प्रकाश डालते हुए भारत की दक्षताओं और क्षमताओं का प्रदर्शन किया। 2021 में, सऊदी अरब के PDTC (प्रिंस डॉ तुर्की बिन सऊद बिन मोहम्मद अल सऊद सेंटर फॉर डिफेंस टेक्नोलॉजी एंड कैपेबिलिटी) ने एक महत्वपूर्ण सहयोग पर सहमत होते हुए भारत इलेक्ट्रॉनिक्स लिमिटेड (BEL) के साथ एक समझौते पर हस्ताक्षर किए थे। यह साझेदारी नागरिक उपयोग के लिए अप्लिकेशन के साथ सुरक्षा और एयरोस्पेस और रक्षा के लिए उन्नत तकनीकी समाधानों के हस्तांतरण और तैनाती पर केंद्रित है।

<https://navbharattimes.indiatimes.com/world/uae/india-saudi-arabia-strategic-partnership-joint-arms-manufacturing-mohammed-bin-salman-g20-summit/articleshow/103665826.cms>



Thu, 14 Sep 2023

## India and Japan Forge Cybersecurity Collaboration and Set Future Course

During the fifth India-Japan Cyber Dialogue in Tokyo, representatives from both nations discussed recent developments in the cyber world.

India and Japan engaged in crucial talks about their cooperation in the cyber domain. They also assessed the progress made in the fields of cybersecurity and Information and Communication Technologies (ICTs), including the advanced 5G technology.

During the fifth India-Japan Cyber Dialogue in Tokyo, representatives from both nations discussed recent developments in the cyber world. They explored opportunities for collaboration at international platforms like the United Nations and various regional forums, including the Quad framework.

Both countries emphasized the importance of building capabilities to ensure a secure cyberspace and agreed to work together in this regard.

Leading the Indian Delegation was Muanpui Saiawi, Joint Secretary of the Cyber Diplomacy Division within the Ministry of External Affairs (MEA). On the Japanese side, Ishizuki Hideo, Ambassador responsible for Cyber Policy at the Ministry of Foreign Affairs (MOFA) of Japan, led the delegation.

The Indian team included senior officials from MEA, Ministry of Home Affairs (MHA), Ministry of Defence (MoD), National Security Council Secretariat (NSCS), Ministry of Electronics and Information Technology (MEITY), Department of Telecommunications (DoT), as well as the Indian Computer Emergency Response Team (CERT-In), National Critical Information Infrastructure Protection Centre (NCIIPC), and the Embassy of India in Tokyo.

The Japanese delegation comprised senior officials from the National Centre of Incident Readiness and Strategy for Cybersecurity, Ministry of Internal Affairs and Communication (MIC), Ministry of Defence, Ministry of Economy, Trade and Industry (METI), MOFA, and other relevant departments.

Both countries look forward to the sixth India-Japan Cyber Dialogue, scheduled to be held in New Delhi in 2024, at a mutually convenient time.

<https://www.financialexpress.com/business/defence-india-and-japan-forge-cybersecurity-collaboration-and-set-future-course-3243939/>



*Thu, 14 Sep 2023*

## **Naval Group India Opens a New Workshop in Karwar to Help Indian Navy Submarines**

Naval Group India has started working at its brand-new workshop in Karwar, and their main job is to support the Indian Navy's Kalvari class submarines. This is a big deal because Naval Group India is the first company that designs equipment that goes onboard the submarines to set up a workshop like this in Karwar. This workshop is part of the Indian government's plan called INS Kadamba, also known as Project SeaBird.

They had a ceremony to open this workshop on September 13th, 2023, in the presence of Rear Admiral KM Ramakrishnan, VSM, Flag Officer Commanding Karnataka Naval Area (FOK), along with other senior officers from Naval Group.

### **What is so special about this workshop?**

Well, it shows that Naval Group India is here to stay and help the Indian Navy for a long time. They chose to put this workshop close to the Indian Navy's ship repair yard in Karwar, where they fix all kinds of Navy ships, including big aircraft carriers, warships, and the special Kalvari class submarines. This workshop will have all the tools and trained Indian workers needed to do important tasks, like fixing the electronics, electrical stuff, and mechanical parts in submarines.

Vincent Martinot-Lagarde, EVP Services, Naval Group, said the company is investing almost Rs 100 crores, to make this workshop top-notch. And are ready to help the Indian Navy whenever they need to repair or upgrade the Kalvari class submarines. He also said that this workshop is part of the friendship between India and France when it comes to underwater defence, and it fits with India's "Aatmanirbhar Bharat" policy, which means making things in India.

They also made it clear that they want to make it easier and faster to do repairs in India instead of sending stuff abroad. This helps India use more of its own resources, which is a great thing.

Rear Admiral KM Ramakrishnan, VSM, Flag Officer Commanding Karnataka Naval Area (FOK), in presence of Vincent Martinot-Lagarde, EVP Services of Naval Group, Laurent Videau, Country & Managing Director of Naval Group India, and other senior dignitaries.

### **What is the significance of this technical workshop?**

The opening of Naval Group India's technical workshop at Karwar industrial area signifies its long-term commitment towards the Indian Navy and the industry. It is strategically located close to the Indian Navy's Naval Ship Repair Yard at Karwar that shall be home to the Indian fleet of aircraft carriers, warships and Kalvari class submarines (based on Naval Group Scorpene design). Naval Group India is the first subsidiary of any Original Equipment Manufacturer (OEM) platform designer to establish its physical presence at Karwar, supporting the Government of India's vision and mission of INS Kadamba also referred as Project SeaBird.

This workshop will house necessary tools and trained Indian engineers to provide time-bound services together with the support from our qualified partners – Indian Small and Medium enterprises (MSMEs). This workshop will complement Naval Group’s other workshops in Mumbai. It aims to perform and support the maintenance activities related, but not limited to, combat system (electronic printed circuit boards, cabinets, peripherals of consoles, etc), electrical system (antenna switching unit, power supply unit(s) for sonar/ Torpedo interface module/ Air surface detection system, starter panel and intercom) and mechanical system (valves, masts, reducers, pressure bottles, etc).

According to a company statement, Naval Group is frequently empowering the subsidiary and its partners in India, thus enabling much of repair activities in India by reducing the turnaround time as compared to sending it to foreign OEMs. As a result, promoting more and more indigenous sourcing.

<https://www.financialexpress.com/business/defence-naval-group-india-opens-a-new-workshop-in-karwar-to-help-indian-navy-submarines-3243851/>



Thu, 14 Sep 2023

## **Indian Army Seeks Mighty All-Terrain Warriors for Ladakh and Kutch Challenges**

*By Huma Siddiqui*

In 2022, the Indian army had put out a Request for Information for 18 Articulated All-Terrain Vehicles. UK based BAE Systems and L&T are pitching BvS10 for trials this month.

### **What are Articulated All-Terrain Vehicles (AATV)?**

They are unique and are designed to be operated on some of the most challenging terrain – a twin-cabin, tracked vehicle that can glide through snow, deserts, and even slushy terrains. What sets these machines apart is their ability to move through places where regular wheeled vehicles would be stuck in a heartbeat. But it’s not just about mobility; these vehicles also offer crucial protection to the troops on board, shielding them from small arms fire.

### **Why does the Indian Army need these?**

The answer lies in their intended deployment areas: Ladakh and Kutch. These regions are known for their harsh conditions, with Ladakh experiencing heavy snowfall, and Kutch’s marshy terrain posing a significant challenge. That’s where the AATV comes into play. These versatile carriers can navigate through deep snow, slush, or marshy ground with ease, making them invaluable for patrolling and rapidly responding to operational needs in these demanding environments.

The Indian Army’s request is quite specific. They are looking for 18 of these vehicles, with 12 destined for Nimu in Ladakh and the remaining 6 for Bhuj in Gujarat. This distribution reveals the Army’s strategic intent – they want to utilize these vehicles in the snowy landscapes of Ladakh and the marshy expanses of the Rann of Kutch.

### **Requirement of the Indian Army**

These vehicles must be capable of performing at altitudes of up to 18,000 feet, where the air is thin and cold, and snow blankets the ground. They should also handle the salty and dry marshlands.

Inside the vehicle, it should comfortably accommodate 10 soldiers along with their full combat gear, all while ensuring their safety through built-in ballistic protection. Furthermore, these vehicles need to cover a minimum distance of 150 kilometers in cross-country terrain on the plains and maintain performance at high altitudes in the mountains. Additionally, they should have a service life of at least 15 years to ensure long-term reliability and usefulness.

### **Manufacturers of such vehicles globally?**

Various Western manufacturers, including Canada and Finland, are known for producing AATV. Finland's NASU vehicle, for instance, is renowned and used by multiple countries, including Finland, France, Belgium, and the United States. Sweden boasts its Bandvagn 206, initially developed by a Swedish company that is now part of BAE Systems, Platforms and Services. Interestingly, both the British and US military also rely on the Bandvagn 206. Meanwhile, Russia has its own versions, such as the DT-30 Vityaz and GAZ 3344, which are manufactured domestically.

In essence, the Indian Army's quest for AATV signifies their commitment to ensuring the safety and mobility of their troops in the challenging terrains of Ladakh and Kutch. These vehicles, with their unique capabilities and robust design, promise to be invaluable assets in the Army's efforts to secure these regions effectively. As the search for the ideal vehicles continues, one thing is certain – these rugged machines will play a crucial role in safeguarding India's borders and its brave soldiers who stand guard in some of the harshest environments imaginable.

<https://www.financialexpress.com/business/defence-indian-army-seeks-mighty-all-terrain-warriors-for-ladakh-and-kutch-challenges-3243556/>

# ThePrint

Thu, 14 Sep 2023

## **Matching China's Defence will Take a Long Time. Until then, Tunnel Warfare is Army's Solution**

*By Lt Gen H S Panag (Retd)*

There has been a quantum jump in infrastructure development along our northern borders under the Narendra Modi government, particularly road communications and airfield upgrades. While the initial plan to improve border roads to achieve parity with China was conceived by the Congress-led UPA government in 2007, since 2014 the present government allocated a bigger budget and displayed tremendous drive in execution to extend these roads all the way to the Line of Actual Control. Chinese intrusions in April-May 2020 and the subsequent large-scale deployment of troops made it a compulsion.

Interestingly, the construction of roads up to the LAC without precautionary deployment of troops was one of the factors behind the success of China's preemptive offensive manoeuvre in April-May 2020 and India's loss of control over 1,000 square kilometres of territory in Ladakh.

The Director General of Border Roads, Lt Gen Rajeev Chaudhry, has expressed optimism that India will catch up with China in terms of road communications within the next three to four years. However, a comparative assessment of border infrastructure by India Today suggests that we still have a long way to go. As per my assessment, the protection of permanent defences and logistical

infrastructure has also not kept pace with the evolving battlefield dynamics dominated by Precision Guided Munitions (PGM) and drones.

### **Battlefield transparency and PGMs**

Modern surveillance/reconnaissance means in the form of satellites, aircraft, drones, radars and electronic interception can pinpoint all targets on the battlefield. These can then be targeted by air/ground-based PGMs and drones with over 90 percent hit probability. Electronic and cyber jamming to neutralise command and control, fire control means and missiles/munitions further compounds the threat.

The ongoing Russia-Ukraine war is a good example of the technological battlefield. However, the issue is relative and there are both active and passive countermeasures for all types of threats. In such an environment, a well protected defender has a distinct advantage over the attacker who is forced to manoeuvre in the open to capture territory. Unless the technological asymmetry is overwhelmingly disproportionate, technology alone cannot assure defeat and capitulation of a relatively weaker defender. The military differential between India and China is predominantly in the domains of cyber and electronic warfare and in the quality and quantity of PGMs, drones, and missiles. Until India can bridge this gap, it would be prudent to rely on an active defensive strategy at the strategic level to stalemate China while retaining the ability for tactical offensive.

It is pertinent to reiterate that decisive wars between nuclear-armed states are passé, and the probability of even a limited war is very low. However, below the nuclear threshold, there is ample scope for the use of stand-off air/ground-based PGMs and drones, as well as electronic and cyber attacks, without resorting to physical attacks. Currently, India's retaliatory capacity, in terms of both quantity and quality, is not at par with China.

In such an environment, well-protected defences and underground logistical installations can significantly neutralise China's superiority. Tunnelling is one of the most cost-effective means to achieve this.

### **Tunnel warfare**

Tunnel warfare goes back 4,000 years, and has been employed for both offensive and defensive purposes. In the last 200 years, the emphasis on mobility, initially with cavalry and later with mechanised and airborne/heliborne forces, reduced the efficacy of tunnel-based fixed defences. A notable example is how the German Blitzkrieg bypassed the heavily fortified Maginot Line in France, in World War 2.

However, tunnel warfare continued to be effectively utilised by the defender to neutralise the asymmetry in air and ground firepower of their adversaries. The Chinese are masters of tunnel warfare and pioneered its revival during the Sino-Japanese War in 1937-45. In the village of Ranzhuang in Hebei province, which is a tourist attraction today, the Chinese dug 15 km of tunnels connecting the houses to foxholes on the battlefield, allowing them to attack Japanese soldiers from the rear. The Japanese learnt this art from the Chinese, and used it in the island battles in the Pacific. Battles of Peleliu and Iwo Jima islands, which were captured by the US Marines at a very heavy cost, are notable examples.

During the Korean War 1950-53, North Korean and Chinese forces built underground fortifications in semi-mountainous terrain to protect themselves from American airpower and artillery. These were so extensive that for every mile (1.6 km) of the front on the surface, there were two miles (3.2 km) of underground tunnels, that is, more than 300 miles (480 km) in total.

Vietcong guerrillas in Vietnam perfected tunnel warfare into an art. Oblivious of a Vietcong tunnel network in the area of Cu Chi near Saigon, the US forces constructed a 1,500-acre military base housing 4,500 troops over it. Shadowy figures emerged out of the tunnel to cause heavy casualties.



The base was abandoned and had to be bombed by the US Air Force and then physically cleared after suffering heavy casualties. Even modern-day terrorists have exploited tunnels for guerrilla warfare in Afghanistan, Syria, and along the Israel-Palestine border.

I have laboured on these historical examples to underscore the effectiveness of tunnels for protection, as they expose the limits of PGMs, often forcing states to resort to highly destructive measures: B-52 bombers in Vietnam, GBU-43/B Massive Ordnance Air Blast (MOAB or Mother of All Bombs) in Afghanistan, and massive airstrikes in Israel. Yet, the subterranean domain remains under-researched, poorly understood, and often underestimated. Therein lies a critical lesson for the defence of our northern borders.

### **State of our defences**

Currently, our mountain defences are designed to withstand suppressive fire from small arms and non-PGM artillery, with their effectiveness further reduced due to reverse slope defences. Defences on dominating heights can withstand conventional firepower and the defender has a distinct advantage over the attacker, who is exposed and forced to attack uphill in rarified atmosphere.

However, the design of these defences, which stand out like sore thumbs on hill tops, has remained largely unchanged for over a century. Such defences will be obliterated by stand-off ground or air-delivered penetrator PGMs, including drones. Classic close combat is passé. The People's Liberation Army (PLA) will neutralise the 'predominance of the defence' in high altitude terrain by not getting involved in "close combat" over unfavourable terrain. If at all it chooses to use force to physically capture ground, its pattern of attack will be driven by high-end technology with overwhelming use of PGMs, cyber, and electronic warfare. The much romanticised 'blood and guts' close combat is a relic of the last century. Stand-alone destruction of posts and logistical installations may also be undertaken as punitive measures without resorting to physical attacks. Logistical installations in the open are also sitting ducks for PGMs.

Given the PLA's overwhelming superiority in cyber and electronic warfare, as well as the quality and quantity of offensive and defensive means in terms of PGMs, drones and missiles, achieving parity will take a long time considering our relatively modest budget, which is unlikely to be increased substantially anytime soon. Tunnel warfare offers a cost-effective interim solution to stalemate and counter both physical and standoff attacks.

### **The way forward**

Recent reports indicate that the PLA is constructing underground installations, possibly for logistics, communication centres, nuclear weapons, or higher headquarters command posts, about 60-70 km from the LAC opposite the DBO Sector. I sincerely hope that the Indian Army has drawn the correct lesson: the necessity of adopting tunnel warfare for permanent defences, logistical installations, communication centres, command posts, and air assets.

Despite speculative reports, it is my assessment that the Indian Army has not formally embraced tunnel warfare as a tactical concept. High-altitude terrain is tailor-made for tunnel warfare. The Army should promptly conduct a comprehensive study to explore the potential of tunnel warfare for our permanent defences in mountains. Army engineers should examine models such as the defences along the 38th parallel in South Korea and adapt them uniquely to our needs for living and fighting in high-altitude terrain. Similarly, logistical installations must go underground, as in their present state, they will perish in 24-48 hours of battle.

Tunnel warfare has been successfully exploited to neutralise resource and technology asymmetries, and I find no logical reason why the Indian Army should not do so.

<https://theprint.in/opinion/matching-chinas-defence-will-take-a-long-time-until-then-tunnel-warfare-is-armys-solution/1761071/>

## खुलासा: पाक कहां और कैसे रखता है परमाणु बम

पाकिस्तान में अर्थव्यवस्था का हाल बेहाल है, लेकिन यहां फिर भी वह लगातार अपने परमाणु बमों की संख्या को बढ़ा रहा है। फेडरेशन ऑफ अमेरिकी साइंटिस्ट ने खुलासा किया है कि पाकिस्तान लगातार अपने परमाणु हथियारों के जखीरे को बढ़ा रहा है। उसके पास इस समय 170 के करीब परमाणु हथियार हैं। अमेरिकी वैज्ञानिकों ने सैटलाइट तस्वीरों के आधार पर बताया कि पाकिस्तानी सेना और वायुसेना के ठिकानों पर नए लॉन्चर और सुविधाएं बनाई जा रही हैं जो पाकिस्तान के परमाणु बलों के लिए हैं। पाकिस्तान इस समय इतना रेडियोएक्टिव पदार्थ बना रहा है जिससे हर साल 14 से लेकर 27 तक परमाणु बम बनाए जा सकते हैं। पाकिस्तान परमाणु बम गिराने के लिए मिराज 3 और मिराज 5 विमानों पर भरोसा करता है। पाकिस्तान के मिराज फ़ाइटर जेट और बॉम्बर इस दो ठिकानों पर स्थित हैं। पहला- मसरूर एयरबेस कराची है जहां मिराज की 3 स्क्वाड्रन मौजूद है। यही नहीं, मसरूर एयरबेस से वेस्ट-नॉर्थ इलाके में 5 किमी की दूरी पर परमाणु हथियारों को रखने का गोदाम भी मौजूद है। पाकिस्तान के पास 6 तरह की किलर मिसाइलें हैं जो परमाणु हथियार दागने की क्षमता रखती हैं।

## **US Defence Awards Contract for Transportable Micro Nuclear Reactor**

As part of the Strategic Capabilities Office (SCO) initiative Project Pele, the US Department of Defence has awarded a contract to X Energy, LLC of Rockville, Maryland. The order is to develop an enhanced engineering design for a transportable micro nuclear reactor and was awarded on September 13.

Micro-nuclear reactors are compact creators which will be small enough to be transported by truck and can help solve energy challenges in several areas, ranging from remote commercial or residential locations to military bases. Micro Nuclear Reactors are not defined by their fuel form or coolant but have three main features, these are as follows:

### **Factory fabricated**

All components of the microreactor would be fully assembled in a factory and shipped out to the location. This eliminates difficulties associated with large-scale construction, and reduction in capital costs, and would help the reactor be up and running quickly.

### **Transportable**

Smaller unit designs will make microreactors very transportable. This would make it easy for the vendors to ship the entire reactor by truck, shipping vessel, aeroplane or railcar.

### **Self Adjusting**

Microreactors will be able to self-adjust because of straightforward and flexible design principles. They would use passive safety mechanisms to avoid any possibility of overheating or reactor meltdown, and they wouldn't need a lot of specialised operators.

In 2022, SCO selected BMX Technologies, Inc. of Lynchburg, Virginia to build a prototype Micro Nuclear reactor. This work is underway and long-lead hardware fabrication has begun. By executing this contract option with X-energy, SCO seeks to develop a complementary microreactor design that builds up X energy's developments completed under Project Pele in 2022. To develop a reactor design that is ready for licencing by the National Regulatory Commission for both civilian and military resiliency, this option maintains financing for X Energy to develop its design to meet Project Pele's technical standards.

Dr. Jeff Waksman, Project Pele Program Manager in a statement said that due to the extraordinary energy density, nuclear reactors have the potential to serve multiple critical functions for meeting resiliency needs in contested Logistics environments. He also said that by developing two unique designs, they will provide the services with a broad range of options as they consider potential uses of nuclear power for both installation and operational energy applications shortly.

The DOD uses approximately 30 Terawatt hours of electricity per year and more than 10 million gallons of fuel per day-levels that are only expected to increase due to the anticipated electrification of the vehicle fleet and maturation of future energy-intensive capabilities. A safe, small and transportable nuclear reactor would address this growing demand with a resilient, carbon-free energy source that doesn't add to DOD's fuel needs while supporting mission-critical Operations in remote and austere environments. This contract option for one year of work by X-energy will not result in a completed engineering design but will allow a thorough analysis of design options,

which will lead to a Preliminary Engineering design and initiation of the regulatory pre-application process.

Jay Dryer, the SCO director has said that the strategic capability office specializes in adapting commercial technology for military purposes. He also said that by nurturing and developing multiple micronuclear designs, the SCO will not just provide options for military services but will also jumpstart a truly competitive commercial marketplace for microreactors.

<https://www.republicworld.com/world-news/us-news/us-defence-awards-contract-for-transportable-micro-nuclear-reactor-articleshow.html>



*Fri, 15 Sep 2023*

## **China's Defence Minister, 'Missing' for over 2 Weeks, under Investigation: Report**

Chinese Defence Minister Li Shangfu, who has not been seen in public for over two weeks, has been placed under investigation, the US government believes.

According to the US, Shangfu has also been stripped of his responsibilities as defence minister, the Financial Times reported.

Taking to X, Rahm Emanuel, the US envoy to Japan, wrote, "President Xi's cabinet lineup is now resembling Agatha Christie's novel 'And Then There Were None'."

"First, foreign minister Qin Gang goes missing, then the rocket force commanders go missing and now defence minister Li Shangfu hasn't been seen in public for two weeks," he wrote.

"Who's going to win this unemployment race? China's youth or Xi's cabinet?" Emanuel said.

He further quoted Shakespeare in Hamlet and wrote, "Something is rotten in the state of Denmark." 1st: Defense Minister Li Shangfu hasn't been seen or heard from in 3 weeks. 2nd: He was a no-show for his trip to Vietnam. Now: He's absent from his scheduled meeting with the Singaporean Chief of Navy because he was placed on house arrest???... Might be getting crowded in there. Good news is I heard he's paid off his mortgage with the Country Garden real estate developers."

Shangfu's supposed disappearance came after Chinese Foreign Minister Qin Gang went missing in July.

Nearly two months ago, Chinese President Xi Jinping removed two top generals from the People's Liberation Army Rocket Force, an elite force overseeing the country's conventional and nuclear missiles.

According to a report by news agency Reuters, Vietnamese officials on Thursday said Li abruptly cancelled a meeting last week because of a "health condition".

In 2018, the Trump administration imposed sanctions on Li in connection with China's purchase of Russian weapons when he headed the PLA's main department for procuring and developing weapons.

<https://www.indiatoday.in/world/story/chinese-defence-minister-li-shangfu-missing-weeks-investigation-us-government-officials-xi-jinping-2435888-2023-09-15>

# THE TIMES OF INDIA

*Fri, 15 Sep 2023*

## **Aditya-L1 Completes 4th Earth Op, to Begin Journey to Final Destination on September 19**

Early on Friday, scientists from the Isro Telemetry, Tracking and Command Network (Istrac) implemented the fourth Earth-bound manoeuvre of Aditya-L1, India's first solar space observatory mission, that was launched on September 2. Today's manoeuvre happened at 2.15am.

The spacecraft is now in an orbit of 256km x 1,21,973km, Isro said, adding that its ground stations in Mauritius, Bengaluru, Sriharikota and Port Blair tracked the satellite during this operation, while a transportable terminal currently stationed in the Fiji islands for Aditya-L1 will support post-burn operations.

A day ahead of the launch, Isro had said that post launch, Aditya-L1 would stay in Earth-bound orbits for 16 days, during which it would undergo five manoeuvres to gain the necessary velocity for its journey. Subsequently, it would undergo a Trans-Lagrangian1 Insertion (TLI) manoeuvre, marking the beginning of its 110-day trajectory to the destination around the L1 Lagrange point.

On Friday, Isro said: "The next manoeuvre, TLI — a send-off from the Earth — is scheduled for September 19, 2023, around 2am."

Upon arrival at L1, another manoeuvre will bind Aditya-L1 to an orbit around L1. The L1 — about 1.5-million-km from Earth — refers to Lagrange Point-1 of the Sun-Earth system. It is a location in space where the gravitational forces of two celestial bodies, such as the Sun and Earth, are in equilibrium. This allows an object placed there to remain relatively stable with respect to both celestial bodies.

Aditya-L1 will spend its whole mission life orbiting around L1 in an irregularly shaped orbit in a plane roughly perpendicular to the line joining the Earth and the Sun.

<https://timesofindia.indiatimes.com/india/4th-earth-op-complete-aditya-l1-to-get-send-off-from-earth-on-september-19/articleshow/103673310.cms>

## THE HINDU

*Thu, 14 Sep 2023*

## **23 Private Companies in Race for SSLV Technology Transfer from ISRO**

Indian Space Research Organisation (ISRO) will facilitate transfer of technology (ToT) for the Small Satellite Launch Vehicle (SSLV) to one private company.

In July, the Indian National Space Promotion and Authorization Centre (IN-SPACe), which is the single-window nodal agency for boosting the space economy of India by promoting active

participation of the private sector, had issued an Expression of Interest (EOI) for technology transfer of SSLV to Indian industries.

On September 14, IN-SPACe Chairman Pawan Goenka informed that 23 companies had applied for the ToT.

Speaking at International Conference on Space 2023 organised by Confederation of Indian Industry (CII), Mr. Goenka said, “With regard to SSLV’s ToT, we are transferring the launch vehicle lock, stock and barrel, as they say, completely into the hands of the private sector. It is, perhaps, the first-ever example where a space agency anywhere in the world has transferred a full design of a launch vehicle to the private sector. We had 23 companies applying for the ToT, but we will be able to give it to only one company.”

The last date for submission of proposal in response to the EOI is September 25. Screening and identifying the prospective bidders will take place on October 30.

SSLV is a 3-stage launch vehicle capable of launching approximately 500kg satellite in 500-km planar orbit. According to ISRO, the key features of SSLV are low cost, with low turn-around time, flexibility in accommodating multiple satellites, launch-on-demand feasibility, and minimal launch infrastructure requirements.

Mr. Goenka said that in the last few weeks, the expectations from ISRO and the Indian space ecosystem on a whole have increased following the soft-landing of the Chandrayaan-3’s lander on the Moon.

“The last few weeks have been amazing, starting with the Chandrayaan-3 soft landing on the Moon, and Aditya L-1 launch, and the G-20 summit. With Chandrayaan-3, what we have achieved is extraordinary, which we have not seen in a long time and, in a sense, it has put in a lot more responsibility in the space sector. Now, the expectations from the Indian space sector are a lot more, not just from ISRO but from everyone in the space ecosystem,” Mr. Goenka said.

IN-SPACe is trying to create all-inclusive infrastructure for industries to facilitate manufacturing.

“We are trying to create plug-and-play infrastructure for industries. We are close to entering into a Memorandum of Understanding with one State and working with another State,” Mr. Goenka said.

<https://www.thehindu.com/sci-tech/science/23-private-companies-in-race-for-sslv-technology-transfer-from-isro/article67306517.ece>

