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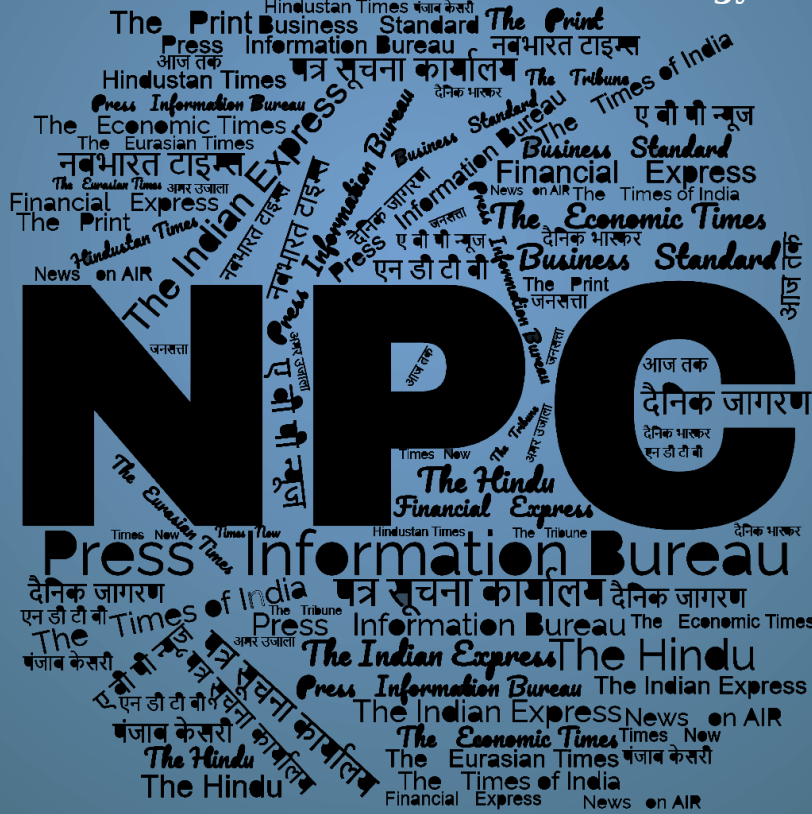
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# समाचार पत्रों से चयित अंश Newspapers Clippings

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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### Sreenivas Rao New DG (NS&M) of DRDO

Distinguished scientist and Director of NSTL Y Sreenivas Rao took over as Director General (Naval Systems and Materials), Defence Research and Development Organisation (DRDO) on May 31, 2023.

As Director of Naval Science and Technological Laboratory (NSTL), Visakhapatnam from June 1, 2021, Dr Sreenivas Rao spearheaded the development of underwater weapons, platforms and associated systems.

Sreenivas Rao started his professional career at BHEL, Hyderabad as an expert in the areas of Manufacturing of Steam Turbines, Centrifugal Compressors and Gas Turbines. Later, he joined DRDO Hyderabad in 2000, and worked in various capacities in the Missile Defence Programme. Over a span of 22 years, he worked on various technologies like Communication systems, Missile systems and various warheads.

As a project director for Exo Interceptor Missile systems, he led a team in configuration, development and realisation of the state of the art 'hit to kill' interceptor missile systems capable of intercepting incoming missiles in the exo region.

Sreenivas Rao is a Fellow of Aeronautical Society of India (AeSI), and The Institution of Engineers India (IEI). Rao is also Life Member of International Ballistic Society (IBS), Indian National Society for Aerospace and Related Mechanisms, and Society for Aerospace Quality and Reliability (SAQR).

He is a recipient of Sir Mokshagundam Visvesvaraya Award as Eminent engineer from IEI Telangana State Centre and also a recipient of number of DRDO Awards in 2005, 2006 and 2009; Solar Shakti Award-2019; JNTU - Distinguished Fellow in 2019 and the SAEIndia – 'Roll of Honor' Foundation Award for the year 2019-2020.

<https://www.thehansindia.com/andhra-pradesh/sreenivas-rao-new-dg-nsm-of-drdo-800350>



### DRDO ने किया अग्नि-1 मिसाइल का सफल परीक्षण, 900 KM तक है मारक क्षमता

रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) ने अब्दुल कलाम द्वीप से गुरुवार को सतह से सतह पर मार करने वाले और परमाणु हथियार ले जाने में सक्षम अग्नि-1 मिसाइल का सफल परीक्षण किया। यह परीक्षण देर शाम किया गया। ठोस इंजन आधारित इस मिसाइल की मारक क्षमता 900 किलोमीटर तक है। यहां ओडिशा तट पर बंगाल की

खाड़ी में अब्दुल कलाम द्वीप पर एक मोबाइल लांचर के जरिए इस मिसाइल को दागा गया। आज के अभियान के पूरे मार्ग पर निगरानी अत्याधुनिक राडार और इलेक्ट्रो ऑप्टिक प्रणालियों से की गई।

### सभी मापदंडों पर खरा उतरा परीक्षण

डीआरडीओ सूत्रों के अनुसार, परीक्षण सभी मापदंडों पर खरा उतरा। अग्नि प्रथम भारतीय सशस्त्र बलों के जखीरे में शामिल पहला और एकमात्र ठोस इंजन आधारित मिसाइल है। देश में ही निर्मित 15 मीटर लंबी और 12 टन वजन का यह प्रक्षेपास्त्र 1000 किलोग्राम भार के परमाणु आयुध ले जाने में भी सक्षम है।

### पिछले वर्ष अग्नि-5 मिसाइल का हुआ था सफल परीक्षण

इससे पहले भी कम दूरी तक मार करने वाली परमाणु सक्षम बैलेस्टिक मिसाइल एसआरबीएम अग्नि-1 से लेकर अग्नि-5 तक मिसाइलों का सफलतापूर्वक परीक्षण किया जा चुका है, जिसकी मारक क्षमता 750 किलोमीटर से लेकर 3500 किलोमीटर तक है। इसी तरह पिछले वर्ष अग्नि-5 मिसाइल का भी सफल परीक्षण किया गया था, जिसकी मारक क्षमता पांच हजार किलोमीटर थी।

<https://www.jagran.com/news/national-india-conducts-successful-training-launch-of-medium-range-ballistic-missile-agni-1-from-apj-abdul-kalam-island-odisha-23429740.html>

## THE TIMES OF INDIA

Sat, 01 Jun 2023

### India Carries out Successful Training Launch of Agni-1 Ballistic Missile

India on Thursday carried out a successful training launch of the Agni-1 ballistic missile that validated all operational and technical parameters of the strategic weapon. The defence ministry said the Strategic Forces Command (SFC) carried out the missile launch from APJ Abdul Kalam Island in Odisha. "A successful training launch of a medium-range ballistic missile, Agni-1, was carried out by the Strategic Forces Command from APJ Abdul Kalam Island, Odisha, on June 1," it said in a statement.

"The missile is a proven system, capable of striking targets with a very high degree of precision. The user training launch successfully validated all operational and technical parameters of the missile," it said.

In the last two decades, India has been focusing on enhancing its strategic deterrent capability by developing various ballistic missiles, precision-guided munitions and related platforms.

India has developed various variants of the Agni series of missiles.

In December last, India successfully test-fired nuclear-capable ballistic missile Agni-V that can strike targets at ranges up to 5,000 km.

The Agni 1 to 4 missiles have ranges from 700 km to 3,500 km and they have already been deployed.

In April, India successfully carried out the maiden flight trial of an endo-atmospheric interceptor missile from a ship off the coast of Odisha in the Bay of Bengal as part of its ambitious ballistic missile defence programme.

The purpose of the trial of the sea-based missile was to engage and neutralize a hostile ballistic missile threat, thereby elevating India into an elite club of nations having such a capability.

The BMDs are capable of intercepting incoming long-range nuclear missiles and hostile aircraft including AWACS (airborne warning and control systems). India has been developing capabilities to intercept hostile ballistic missiles both inside and outside the earth's atmospheric limits.

<https://timesofindia.indiatimes.com/india/india-carries-out-successful-training-launch-of-agni-1-ballistic-missile/articleshow/100684552.cms>



Sat, 01 Jun 2023

## India Carries out Successful Training Launch of Agni-1 Ballistic Missile

A training launch of a Medium-Range Ballistic Missile, Agni-1, was successfully carried out by the Strategic Forces Command from APJ Abdul Kalam Island, in Odisha on Thursday, the defence ministry said in a statement.

“The missile is a proven system, capable of striking targets with a very high degree of precision. The user training launch successfully validated all operational and technical parameters of the missile,” defence ministry principal spokesperson A Bharat Bhushan Babu said in the statement.

### **Agni Prime**

In October last year, India successfully fired ‘Agni Prime’ - a new generation of ballistic missiles - from off the coast of Odisha. Defence officials said all test objectives were met and said the third consecutive (and successful) test of the 'Agni Prime' had 'established the accuracy and reliability of the system'.

Performance was validated using data obtained by many tracking systems, including radar, telemetry and electro-optical systems, the officials had said.

These systems were deployed at different locations along the flight path, including two down-range ships at the terminal point, and covered the entire trajectory, officials added.

The first test was in June last year, with the second six months later - in December. On both those occasions too the missile 'followed textbook trajectory and met all mission objectives with a high level of accuracy', officials said.

<https://www.hindustantimes.com/india-news/india-carries-out-successful-training-launch-of-agni-1-ballistic-missile-101685631134463-amp.html>

Sat, 01 Jun 2023

## **BrahMos Missile is 25 Years Old! IAF keen to get BrahMos-NG Soon**

Soon the Indian Air Force (IAF) will get BrahMos-NG (next generation) supersonic cruise missile which will be on board the smaller aircraft including Light Combat Aircraft (LCA) 'Tejas', Mirage-2000 as well as the MiG-29s. This move comes amidst the ongoing border standoff between India and China, leading the IAF to equip several squadrons with BrahMos-capable aircraft.

Recognizing the effectiveness of BrahMos missiles for land attacks, the IAF has equipped numerous squadrons with BrahMos-modified aircraft in almost all squadrons across the IAF. Chief of Air Staff (CAS) Air Chief Marshal VR Chaudhari in his address at the '25 Supersonic Years of Success' 'BRAHMOS Users Meet 2023' in New Delhi emphasized the need for precision and long-range firepower, considering conflicts worldwide. He highlighted the importance of developing a smaller, cost-effective version of BrahMos that can be fitted onto smaller platforms.

In his address the IAF chief talked about the situation on the Northern borders three years ago, and how IAF realised the importance of the potent weapons that can be used very effectively for land attacks.

In view of the ongoing conflicts across the globe, the chief stated that the importance of precision and long-range firepower cannot be ignored and the need to focus on developing a smaller cost, a smaller weapon with the same reach and lethality.

### **Enhanced Capability**

On the enhanced capabilities of the frontline fighter jets, the IAF chief said that the combination of BrahMos on the Sukhoi Su-30 has really given a tremendous capability. According to him it has enhanced IAF's firepower and has made the deterrence value of the service go up.

The upgraded BrahMos and the BrahMos NG will remain the primary deterrent weapon for the IAF.

Earlier, the Chief of Defence Staff (CDS), Gen Anil Chauhan said that Aatmanirbharta "does not imply that we will create everything in India".

According to him 'Aatmanirbharta' does not mean that everything will be produced in India. He said that joint ventures will be formed and cited BrahMos as one such venture which has been successful.

BrahMos Aerospace is the India-Russia Defence Joint Venture (JV) between DRDO & NPOM.

Applauding the initiatives taken by BrahMos Aerospace to provide life extensions from the missiles already delivered, the CDS said that the decision to set up a BrahMos (manufacturing) facility in the UP Defence Industrial Corridor is also a significant development.

In his address Army Chief General Manoj Pande talked about the conflicts and the vulnerability of manned and unmanned platforms. According to him when it comes to engaging targets at longer ranges or in-depth then missiles are emerging as 'the vectors of choice'.

Today, the Indian army remains the largest user of BrahMos missiles which were first deployed back in 2007.

Speaking on the occasion, Atul D Rane, DG (BrahMos, DRDO) and CEO & MD of BrahMos Aerospace said that the universal weapon's operationalization in the Tri-Services of India has made us the first & only nation in the world to possess a 'Supersonic Cruise Missile Triad'.

"BRAHMOS has rightfully broken the "Fifth-nation Syndrome" for us," the Outlining the supersonic journey of BrahMos over 25 years, he said there are many firsts: More than 100 test firings of the missile have been conducted from air platforms, ground and ship – these include development trials and user acceptance trials at an unbeatable success rate.

<https://www.financialexpress.com/business/defence-brahmos-missile-is-25-years-old-iaf-keen-to-get-brahmos-ng-soon-3110341/>

## THE TIMES OF INDIA

*Fri, 02 Jun 2023*

### **Kiran Trainer Aircraft Crashes in Ch'nagar, both Pilots Eject Safely**

Two pilots on a training sortie in an Indian Air Force (IAF) aircraft had a narrow escape, when it crashed near a village, located 9km from Chamarajanagar town, on Thursday.

The pilots ejected safely, from the aircraft that crashed on barren land in the parched plains of Chamarajanagar district. The pilots were administered first-aid before being airlifted to Bengaluru. A court of inquiry (CoI) has been ordered to ascertain the cause of the accident.

The IAF, in a statement, informed that a Kiran trainer aircraft crashed while on a routine training sortie. It stated that both the aircrew ejected safely.

"Both the pilots are safe. We cordoned off the crash site after the incident," said Chamarajanagar SP Padmini Sahoo.

According to residents of Bogapura, they came to know about the crash after hearing a loud noise at an isolated site on the outskirts of the village. It crashed in a graveyard, said villagers.

"I was working in the field when the incident happened," said Nanjundegowda, a Bogapura GP member. "At first we heard a loud noise. When we ran towards the direction of the noise, we saw aircraft debris. Villagers were afraid to go near the crash site initially," he added. The crash site was vacant revenue land, he said. There was no damage or loss of property, he added.

The two pilots safely landed at the adjacent village of Mangala, informed Adishesha Murthy B, panchayat development officer, Mangala gram panchayat. "They safely landed on dry land. The distance between the crash site and this area is around 3.5km to 4km," he said.

Somshekar KS, another member of the Bogapura gram panchayat who was one of the first to reach out to the pilots, said that both of them were fine after landing safely by using parachutes. "We offered water to the pilots. The trainer pilot had minor injuries on his lip. I asked him if he wanted to visit the local hospital. When I informed that the nearest hospital is located 12-14km away, he preferred returning to Bengaluru. Helicopters came immediately," he said.

According to eyewitnesses, three IAF helicopters reached the site within 30 minutes of the crash. The injured pilots were airlifted in the helicopters, they said. Senior officials from the district administration and police department rushed to the spot. Fire tenders were also rushed to the spot to douse the fire. The police barricaded the entire area, to prevent the public from entering the crash site.

Chamarajanagar additional deputy commissioner S Katyinidevi said that district administration has extended support to the IAF in the rescue operation, apart from directing the police to provide security at the crash site, as a large number of curious people from near Bogapura village flocked there to witness the tragedy. IAF personnel will collect the debris for inspection.

<https://timesofindia.indiatimes.com/city/mysuru/kiran-trainer-aircraft-crashes-in-chnagar-both-pilots-eject-safely/articleshowprint/100689347.cms>

# ThePrint

Sat, 01 Jun 2023

## **Tri Services Military Commanders Dealing with Western Front to Meet Next Week in Mumbai**

At a time when the defence forces are moving towards creating theatre commands, military commanders of all three defence forces dealing with threats from the western front will meet next week in Mumbai, said an official.

"Military commanders from all three forces including Army, Navy and Air Force would be meeting next week in Mumbai to discuss the threat from the Pakistan front and other security issues from that side", government officials told ANI.

They said that the meeting is taking place at a time when Chief of Defence Staff (CDS) General Anil Chauhan is working towards creating Theatre Commands which will be based on the threats faced by the country from different sides.

The CDS has issued orders towards cross staffing among the three services and holding joint wargames in future to create more synergy between the forces.

"The western front military commanders' conference will include the commanders-in-chief of the Army's Northern, Western, South Western and Southern Commands, IAF's Western, South Western and Southern commands along with the Navy's Western Command", said the sources.

The commanders of the eastern front have also been meeting in the past along with the island territory commanders.

The government created the new post of Chief of Defence Staff to hasten the process of increasing jointness among the defence forces which have 17 operational commands headed by commander-in-chief rank officers.

CDS Gen Anil Chauhan has already visited the majority of these 17 formations and the steps being taken by the DMA in this regard.



The theatre commands are planned to be raised to create joint warfighting formations ready to meet modern warfare's challenges.

New formations like the Defence Cyber Agency, tri-services Armed Forces Special Operations Division and Defence Space Agency have been created to support the operations of theatres.

<https://theprint.in/india/tri-services-military-commanders-dealing-with-western-front-to-meet-next-week-in-mumbai/1607051/>



*Sat, 01 Jun 2023*

## **HAL to Develop a New Advanced Fighter Jet Trainer for the IAF**

The Indian Air Force is modernizing its ageing fleet of fighter aircraft. Under the ongoing plan, several crucial projects are underway which include single-seater aircraft like LCA Mk II and Advanced Medium Combat Aircraft (AMCA) and Multi-Role Fighter Aircraft (MRFA).

There is a need for the next generation fighter jet trainers for pilots which could match those requirements. India's public sector defence entity, Hindustan Aeronautics Limited (HAL) has geared up to design and develop the next generation supersonic trainer– Hindustan Lead-in Fighter Trainer (HLFT)-42.

HLFT-42 is the 'Next Gen Supersonic Trainer' that will play a "critical role" in modern combat aircraft training with state-of-the-art avionics like Active Electronically Scanned Array, Electronic Warfare Suite, Infrared Search and Track (IRST) with Fly By Wire control (FBW) system, the HAL said.

The FBW replaces the conventional manual flight controls of an aircraft with an electronic interface.

While the project was conceived in 2017 by HAL, it has progressed in terms of design. According to the sources, HAL is also looking for the next-generation aero-engine of higher thrust.

According to the HAL official, the other key elements like wind tunnel testing and fabrication of the actual aircraft which will take another two years to complete.

The project will be internally funded by HAL, however, HAL is also looking to collaborate with private defence entities to jointly develop the prototype over the scale model.

### **HLFT-42: Key factor**

Based on the frontline types, the jet trainer is aimed at subsonic jet training.

The HLFT will be equipped with advanced sensors and a weapon suite to train pilots for complex roles in a real environment.

Currently, fighter pilots are trained on three platforms – the basic trainer, the intermediate trainer, and the advanced trainer.

The basic trainer is even for helicopter pilots. For advanced training, fighter pilots train on BAE Systems Hawk 132. Advanced Hawk 132 while upgraded with avionics, lacks high-calibre sensors and radars.

Leading the program, Group Captain Harshvardhan Thakur from the project HLFT-42 points out the key weapon integration.

“[HLFT-42] will be converted into a fully-fledged fighter aircraft by integrating weapons like CCM [close combat missiles] and Astra [beyond-visual-range air-to-air] missiles, carrying up to 10 of the latter together with two ASRAAM short-range missiles,” he explained.

The 16.5-tonne jet trainer will have a higher-thrust engine than General Electric’s F404 engine, as per the sources. It could also consider the powerful GE F404 turbofan or the indigenously designed and developed GTX-35VS Kaveri engine.

The programme could also benefit from the ongoing talks over jet engine manufacturing within India with global engine manufacturers — GE and Safran.

HAL has worked out a time frame for HLFT-42 from the conception stage to induction within years.

Besides, HAL has also hinted at the export version of the new supersonic trainer.

<https://www.financialexpress.com/business/defence-hal-to-develop-a-new-advanced-fighter-jet-trainer-for-the-iaf-3110264/>



*Sat, 01 Jun 2023*

## **Indian Army Upgrades Konkurs-M ATGW with Thermal Imagers**

The Indian Army has upgraded its 9K111-1M Konkurs-M anti-tank guided weapon (ATGW) systems with Bangalore-based Tonbo Imaging's cooled, longwave Infrared (LWIR) thermal imagers known as Sarisa, a source at Tonbo told Janes.

According to Tonbo, Sarisa is a thermal imaging camera used for detection, recognition, and identification of threats at long ranges during day and night and in adverse weather conditions. It can lock onto a stationary or moving target before launching the missile.

Sarisa is equipped with mounting brackets that allow it to be installed in the front of the optics channel of the Konkurs-M ATGW launcher.

It is deployed in clip-on configuration with inbuilt collimated optics “enabling the user to engage with the targets using the same sight channel of direct-view optics of the Konkurs launcher”, according to Tonbo.

The thermal imager is designed in accordance with MIL-STD-810G and MIL-STD-461F standards.

According to Janes Weapons: Infantry , the 9K111-1M Konkurs-M is an improved model of the 9K111-1 Konkurs ATGW system. The 9K111-1M Konkurs-M was developed to counter explosive reactive armour (ERA)-protected targets. The system includes the 9P135M-1 ground launch system (GLS) and the 9M113M missile. The Konkurs-M system was developed by then TsKB-14 (now KBP Instrument Design Bureau) situated in Tula, Russia.

In 2008 the Indian Ministry of Defence (MoD) approved the procurement of 15,000 Konkurs-M missiles for INR13.8 billion (USD167 million). In 2012 the MoD approved the procurement of an additional 10,000 Konkurs-M missiles.

<https://www.janes.com/defence-news/defence/latest/indian-army-upgrades-konkurs-m-atgw-with-thermal-imagers>

# ThePrint

Sat, 01 Jun 2023

## **Military Cross Postings Crucial for Theatre Command System. It must begin with Logistics Corps**

*By Manvendra Singh*

The Narendra Modi government's decision to implement a cross posting policy for the armed forces is a welcome step. Following some truly perplexing policy decisions in the recent past, this is a move in the right direction for promoting jointmanship within the Services.

The policy entails the posting of officers at the functional rank of Major and Lieutenant Colonel, and their Navy and Air Force equivalents, in the other Services. It will certainly foster greater systemic awareness at critical implementation levels within the Services. At a certain stage, this initiative should be taken to its logical end.

### **Proceed with eagerness**

As it stands, the policy involves posting officers for tasks that are similar to the soldiers' current duties. So, a naval missile officer will be posted to an Air Force squadron focused on missiles. And an Army officer from an unmanned aerial vehicle (UAV) unit would be posted to a naval appointment performing the same role. The logistics sector would probably see the largest number of such cross postings, for the Services have opened up this corps, and none of the armed forces likes to let go of anyone directly connected to combat roles. Nonetheless, there is a need to do that.

In terms of the future of armed forces integration, and the long-announced theatre commands, this is an important but tentative step. The numbers involved are minuscule thus far, and, therefore, unlikely to ruffle any empire building feathers—the bugbear of all things military. It sets up the stage for furthering the process of integration, and it must proceed with utmost eagerness. The first steps are always the most important, and so is the decision to begin with logistics cross postings. This is the aspect of soldiering that doesn't garner the attention it deserves but is the most important.

The Modi government could well set up a logistics command, for such is the importance of this corps. And given the current penchant to surreptitiously cut back armed forces numbers and capital investments, a tri-Service logistics corps, and its corresponding command, can actually save a lot of money for better budgeting. It could start with the cross posting of officers, for they could create the working environment to take the next steps for raising a joint logistics corps, furthering confidence within the military fraternity. And that is, after all, the purpose of cross postings.

### **Plug the gaps in air defence**

Another aspect of soldiering that doesn't get the importance it deserves, and has critical operational shortcomings, is air defence. The three Services maintain their independent air defence corps, and their integration is vitally important. Each Service knows the lacunae that exist and would greatly benefit from greater tri-Service postings in this sector. And technically related to this, but coming

from a completely different perspective, is the greater interaction between the three separate signals corps. After all, air defence needs excellent and secure communication to fulfil its tasks fully. And that can best come from a truly integrated signal officer cadre.

The next step is to take the process forward to joint operational planning stages. And that would ideally be done by posting officers into the perspective planning directorates at first, following which the bar can quite easily be raised. Naval and Air Force officers posted as Deputy Chiefs of Strategy at Army Headquarters will certainly be value additions. Once perspectives begin to match, and jointness appears more benign than it was made out to be, it will be a matter of time before officers are in joint operations rooms. That is the ultimate indicator of integration.

Planning and execution of operations is obviously the desired end state, for then the armed forces can be said to have achieved jointmanship. The purpose of all military endeavour is, after all, to efficiently plan and execute operational directives that have been received. All of that is only possible once the ultimate military weapon is safely shared by the three Services — and that is the Annual Confidential Report (ACR), the piece of paper that does more to make or break a career than well-executed operations. Once the Services respect and implement each others' ACRs, the last hurdle will be crossed.

### **Hardware, workforce important too**

The workforce crisis that the three Services face today is of deep concern. While the issue is a matter of greater national scrutiny, the long-term outcome is that the armed forces are going to be asked to do a lot more with a lot less. And that less is in terms of both workforce and hardware. This is today's sad reality where lofty buildings are more important than a third aircraft carrier, modern submarines, and a viable number of combat aircraft.

When defence pensions are of greater concern than the workforce to protect borders, matters will boil over.

With China refusing to vacate occupied territories, increased workforce shortage is only going to cause deeper trouble for India. And now that fires have been lit in Manipur, they are not going to subside for a while, further dragging the Army into additional internal security duties there. Enhanced inter-Service cooperation is the only way to overcome these crises appearing on the horizon. Cross postings is a positive step to inculcate that spirit of cooperation.

<https://theprint.in/opinion/military-cross-postings-crucial-for-theatre-command-system-it-must-begin-with-logistics-corps/1605908/>

## **THE TIMES OF INDIA**

*Fri, 02 Jun 2023*

### **Will Take Ties to Himalayan Heights: PM Modi to Nepalese Counterpart Prachanda**

Efforts to enhance energy and connectivity ties dominated the agenda of PM Narendra Modi's meeting Thursday with his visiting Nepal counterpart PK Dahal Prachanda that saw the two countries sign seven agreements and launch six projects, including inauguration of new railway services.

Modi assured Prachanda that India will work to take the relationship to Himalayan heights and resolve the boundary dispute between India and Nepal in the same spirit. Among the highlights of the summit meeting was a revised transit agreement that will allow Nepal access to India's inland waterways for the first time. India also acceded to Nepal's proposal to export power to Bangladesh

through Indian territory, while announcing it will ramp up its own power import from Nepal to 10,000 MW in the next 10 years. Nepal currently exports 450 MW to India.

### **Nepal PM calls for foreign secretary-level talks to resolve Kalapani dispute**

The Nepal PM urged PM Modi to address the dispute over the Kalapani territory in Uttarakhand through the established mechanism of foreign secretary-level talks. Following India's own 2019 revised map, Nepal had issued a new political map in 2020 claiming territory under India's control and asking Indian soldiers to withdraw, a move India saw as a unilateral act not backed by any historical fact or evidence.

These relations (with India) stand on the solid foundation built, on the one hand, by the rich tradition of civilisational, cultural socio-economic linkages and, on the other, by the two countries' firm commitment to the time-tested principles of sovereign equality, mutual respect, understanding and cooperation," said Prachanda in his media remarks after the meeting, adding India's continued support and goodwill remained important for Nepal.

Modi said India's partnership had been a hit, recalling his own acronym HIT (Highways, I-ways and Transways) for the future India-Nepal ties during his first visit to Nepal as PM in 2014. "Today we took some important decisions to turn this into a superhit partnership. The transit agreement will facilitate use of new rail routes and inland waterways for the people of Nepal," while listing the agreement and projects that encompassed areas like rail connectivity, power, petroleum pipeline and cross-border financial payments.

The two countries signed a long term Power Trade Agreement under which, as Modi said in his remarks to the media, India has set a target of importing 10,000 MW of electricity from Nepal in the coming ten years. The PM also said that he and Prachanda agreed projects related to Ramayana circuit should be expedited to strengthen religious and cultural links between the two countries.

"We will continue to work to give our relationship the height of the Himalayas. And in this spirit, we will solve all the issues, whether it is of boundary or any other issue." Said Modi.

According to foreign secretary Vinay Kwatra, the two leaders engaged in comprehensive and future-oriented discussions aimed at taking the bilateral relationship forward in a manner that's constructive, progressive and beneficial for both the societies.

Prachanda sought non-reciprocal market access to India with more flexible and easy quarantine procedures for Nepal's agricultural products and simplified Rules of Origin for other products. "We also discussed the establishment of well-equipped testing labs along the major border points and formalising the arrangement for mutual recognition of test certificates," he said.

<https://timesofindia.indiatimes.com/india/will-take-ties-to-himalayan-heights-pm-modi-to-nepal-counterpart-prachanda/articleshow/100686639.cms>



*Sat, 01 Jun 2023*

## **India, China Hold Talks on LAC Standoff in Delhi, Agree on Military Discussions**

India and China held another round of diplomatic talks on Wednesday on the dragging standoff on the Line of Actual Control (LAC), with the only outcome being a decision to hold the next round of discussions between military commanders "at an early date".

The 27th meeting of the Working Mechanism for Consultation and Coordination (WMCC) on India-China border affairs was held in-person in New Delhi, the external affairs ministry said in a statement.

While noting that restoring peace and tranquillity will “create conditions for normalising bilateral relations”, the statement said: “In order to achieve this objective, in accordance with existing bilateral agreements and protocols, they agreed to hold the next (19th) round of Senior Commanders’ meeting at an early date.”

The military standoff on the LAC, currently in its fourth year, has taken India-China ties to their lowest ebb in six decades. Soon after the standoff emerged in the open, a brutal clash at Galwan Valley killed 20 Indian soldiers and at least four Chinese troops in June 2020.

In the face of calls from the Chinese side for the border row to be placed in its “appropriate place” in bilateral relations, external affairs minister S Jaishankar has maintained that relations cannot be normalised till peace and tranquillity are restored along the LAC.

During the WMCC meeting, the two sides “reviewed the situation along the LAC in the Western Sector of India-China border areas and discussed proposals for disengagement in remaining areas in a frank and open manner”, the statement said.

“Restoration of peace and tranquillity will create conditions for normalising bilateral relations,” the statement said.

The two sides also agreed to continue discussions through military and diplomatic channels.

The joint secretary (East Asia) from the external affairs ministry led the Indian delegation at the meeting, while the Chinese team was led by the director general of the boundary and oceanic affairs department of the foreign ministry.

The Indian Army and China’s People’s Liberation Army (PLA) held the 18th round of senior commanders’ talks on April 23 to ease tensions along the LAC.

Prior to this, the two sides had held talks between the corps commanders in December 2022 to discuss outstanding issues along the border.

Despite four rounds of disengagement of frontline troops at Galwan Valley, Pangong Lake, Gogra and Hot Springs, the Indian and Chinese armies still have more than 60,000 troops each and advanced weaponry deployed in the Ladakh theatre.

Prominent among the remaining friction points along the LAC are Depsang and Demchok.

<https://www.hindustantimes.com/india-news/india-and-china-hold-talks-on-lac-standoff-agree-to-hold-next-commanders-meeting-at-an-early-date-101685551336670.html>



*Sat, 01 Jun 2023*

## **Embraer is in Talks with Tata, M&M for Manufacturing Tie-up**

Brazil’s Embraer is in talks with India’s Tata and Mahindra groups, among others, for an aircraft manufacturing partnership, top company executives said, as the world’s third-largest passenger jet maker works to expand its India foothold. “Tata told us that they would first start with focus on big aircraft, and that involves Airbus and Boeing. After that, they would look at more regional aircraft, and there is the market where we are,” president and chief executive officer (CEO) Francisco

Gomes Neto said in an interview. Embraer is a leader in regional aviation and follows Airbus and Boeing in the market for larger commercial jets. The company hopes to finalize its Indian partner for defence aircraft manufacturing by the end of 2023.

"We are in touch with several potential partners, such as Tata, Mahindra, and other companies as well. We will not take so long. I do believe somewhere in the end of this year, we are going to decide what kind of partner we are going to be with," the company's defence and security president and CEO Bosco Costa Junior said.

The Indian Air Force (IAF) is scouting for medium-transport aircraft that can lift 18-30 tonnes, a process it expects to complete by 2025-26. Embraer, which showcased the product at Aero India 2023 in Bengaluru in February, has pitched its latest defence product—the C-390 Millennium multi-mission tactical air transport aircraft—for the order.

"India has got a procurement process in place for up to 80 units of tactical cargo airplanes; so, we are seeing this market as a very important market to us, and we have the intention to go very aggressive in this kind of initiative to even have a final assembly line there," Costa Junior added.

Embraer sees "a good opportunity" in India, CEO Neto said. "The IAF has seen our aircraft already; they like it. We have had good experiences from countries such as the Netherlands with respect to the C-390 Millennium. With this request for information (RFI), we think the C-390 Millennium is the best solution for that size of aircraft," he added.

Embraer is not new to Indian defence aviation. The company has earlier collaborated with Defence Research and Development Organisation (DRDO) to manufacture three Netra airborne early warning and control (AEW&C) aircraft based on Embraer's ERJ145 platform, which are operated by the IAF. Embraer's Legacy 600 jets are also operated by the IAF and the Border Security Force (BSF) to transport government officials and VIPs.

The company had earlier held talks with IndiGo for next-generation turboprop aircraft, Neto said, adding India's largest airline was "very interested". However, Embraer has since then put the turboprop project on hold.

Global supply chain issues continue to impact aerospace manufacturing, but the delivery of aircraft parts and engines is expected to improve in 2023 as compared to 2022, albeit at a gradual pace. Embraer aims to deliver 65-70 commercial jets and 125-130 executive jets in 2023, against 57 commercial jets and 102 executive jets delivered in 2022.

"We could do more, but we had some limitations with respect to engines; that's why we gave this guidance. This year will still be challenging for us on account of supply chain issues," Neto added.

<https://www.livemint.com/companies/news/embraer-taps-tata-m-m-for-local-mfg-11685638753898.html>



Sat, 01 Jun 2023

## **India-US Military Trade to Touch \$25 Billion! Know the Man behind Big Bilateral Deals**

The aggregate worth of India's defence acquisition from the US Defence companies is expected to cross US\$25 billion soon. To achieve this target some major defence deals worth billions of dollars are expected to be announced during the forthcoming state visit of Prime Minister Narendra Modi later this month.

### **What is expected to be announced?**

The potential biggest outcome is expected to be the approval by the Biden administration for the joint production of the GE F 414 engines which will power India's indigenous Light Combat Aircraft 'Tejas' Mk2.

The deal when firmed up will initially be for the fighter jets, and later for powering naval ships. The US company is also keen to participate in India's Advanced Medium Combat Aircraft (AMCA) programme in which the UK based Rolls Royce engine manufacture has offered to participate too.

The draft related to the GE engines project is expected to be discussed with the US Secretary of Defence Llyod James Austin when he arrives in New Delhi over the weekend. He will be here for two days June 4-5 before he leaves for France.

The long pending deal related to the acquisition of the 30 MQ-9B Predator drones from General Atomics for the urgent joint requirement of the Indian Navy, Army, and Air Force will be discussed.

Expansion of bilateral strategic technology partnership between the two countries under iCET including launch of INDUS-X to promote partnerships between the two countries' defence innovation ecosystems.

In New Delhi, the US Secretary of Defense will also discuss implementation of foundational defence agreements and also the fighter jets for the Indian Air Force and the Navy.

### **Military Trade**

India has emerged as one of the largest importers of defence equipment, and the US over almost two decades has become a significant supplier. It has provided advanced defence systems and platforms to India, including aircraft, helicopters, naval vessels, missiles, artillery systems, and surveillance equipment.

Notable defence acquisitions from the US include C-130J Super Hercules transport aircraft, C17 Globemaster, Boeing's AH-64 Apache attack helicopters, s Chinook CH-47 Helicopters, P-8I maritime surveillance aircraft, and M777 howitzers.

Both sides have been collaborating on defence technology development and research. The Defence Technology and Trade Initiative (DTTI), launched in 2012, served as a platform to enhance defence technology cooperation and promote co-development and co-production of defence systems.

Joint working groups have been established to focus on specific technology areas such as aircraft carriers, jet engines, and chemical-biological protection. Both countries have emphasized the importance of defence industrial cooperation, including joint ventures, technology transfers, and co-production arrangements. The US has encouraged Indian participation in its defence manufacturing supply chains and defence exports, promoting the "Make in India" initiative. Several US aerospace companies have established partnerships with Indian counterparts, facilitating technology transfer and enhancing indigenous defence production capabilities in India.

### **Man behind catalyzing US India defence relations**

Renowned US aerospace scientist, Dr Vivek Lall has played a very significant role in advancing India-US defence trade and cooperation. His efforts have helped foster much closer ties between Indian and US defence industries as he has been instrumental in strengthening bilateral ties and facilitating the procurement of advanced defence technologies from the US that have been critically needed by India.



He has been a strong advocate for India's defence modernization efforts. And in a recent interaction in a section of the media has highlighted the need for India and US to collaborate on advanced defence technologies and equipment to enhance its military capabilities. Bilateral trust and cooperation has increased multiple fold in the last two decades.

Dr Lall, took over as Boeing's top official in charge of US-India Defence trade back in 2007. Recognized by many world leaders including several US Presidents and heads of state from Europe and Japan he is the man behind growing military trade between the governments of the US and other countries.

During his career in the Boeing Company, he had led a team to work on the path-breaking military deals including the P8I Anti Submarine Warfare (ASW) aircraft for the Indian Navy, C17 (military transport aircraft), anti-ship Harpoon missiles, Apache and Chinook helicopters for the Indian Air Force (IAF) and oversaw multiple campaigns as well as pan India strategic industrial tie-ups.

When he was appointed Vice President of Strategy and Business Development at Lockheed Martin (LM) Aeronautics the same year witnessed his appointment by the US Government in a key advisory role in a Federal Advisory Committee. This was a two-year term to the US Cabinet Secretary heading Department of Transportation in Washington DC which affects the American and global aviation policies and technologies.

At Lockheed Martin he spearheaded the discussions to conclude the very long pending MH60R anti-submarine helicopters for the Indian Navy.

He is the man behind the path-breaking agreement by the White House to release armed category 1 UAV to India, a non-NATO country, as he led discussions on behalf of General Atomics.

Negotiations for 30 MQ-9B Predator drones from General Atomics (deal yet to be signed) is being spearheaded by him. The deal is below US\$ 3bn.

Dr Lall has also been recently appointed as a US technical member to NATO S&T.

#### **Worth of each deal**

Boeing Company's P8I Anti-Submarine Warfare (ASW) aircraft worth US\$ 3 billion for the Indian Navy.

In a deal worth US\$ 200 million for 22 Anti-ship Harpoon missiles from Boeing.

For the Indian Air Force (IAF) AH-64E Apache Guardian Attack Helicopters and CH-47F (I) Chinook helicopters in a deal for US\$ 5 billion.

10 C-17 Globe master III heavy-lift transport aircraft for US\$ 4 billion.

<https://www.financialexpress.com/business/defence-india-us-military-trade-to-touch-25-billion-know-the-man-behind-big-bilateral-deals-3109839/>

**ARMY TECHNOLOGY**

*Sat, 01 Jun 2023*

## **US Pentagon Sends Ukraine Gepard Air Defence Systems**

The US Department of Defense (DoD) plans to strengthen Ukraine's air defences with Gepard 35mm anti-aircraft tanks. Under the Ukraine Security Assistance Initiative, the DoD has contracted the small Florida-based business, Global Military Products, to manufacture the air defence systems in Amman, Jordan for \$118.3m.

Originally produced in West Germany, the self-propelled anti-aircraft guns entered active service in the 1970's. The US-produced platforms will be completed by 30 May 2024. The DoD has not specified how many units it will provide to the wartorn country.

The platform is not new to the Ukrainian armed forces: the German Ministry of Defence supplied its eastern European ally with 34 Gepard systems with 6,000 rounds of ammunition. The German donation increased to provide an additional 300,000 rounds in February this year.

To date, the US government has committed military aid worth \$38.3bn since the beginning of Biden's administration in 2021. The delivery of Gepard tanks, announced on 31 May, is the latest military support package for the country that is currently being bombarded by various projectiles, from Iranian uncrewed aerial vehicles to hypersonic missiles.

### **Ukraine's air defence**

Many observers expect a Ukrainian counter-offensive at any moment; especially now that Russian forces have secured the town of Bakhmut after a bitter and costly struggle.

Currently, the defiant and albeit exhausted country is locked in a stalemate, where Russian forces are dug-in along the eastern front.

Strong air defence systems will shore up any weaknesses in Ukrainian defences if the counter-offensive is to succeed. Air power is of additional importance too, and is currently dominating discussions about the war.

The Atlantic Council, a nonpartisan American think tank that urges transatlantic co-operation, asserted the need for Ukraine to exercise air superiority, a critical weakness where Russian forces have taken advantage.

"Ukraine will be hindered by its lack of air power and long-range fires, as well as an absence of amphibious or airborne platforms, making a frontal assault almost the only option," a spokesperson for the organisation said.

G7 nations, an intergovernmental organisation made up of the world's seven largest economies, attended a summit in Hiroshima, Japan where US President Joe Biden pledged to train Ukrainian fighter pilots on the F-16 aircraft.

<https://www.army-technology.com/news/us-pentagon-sends-ukraine-35mm-gepard-systems/>

## **Science & Technology News**



*Fri, 02 Jun 2023*

### **Chandrayaan-3 Reaches Launch Port, Satellite Centre Chief Says ISRO 'Upbeat & Apprehensive'**

"Upbeat" and "apprehensive" is how M Sankaran, Director of UR Rao Satellite Centre, described the mood at Indian Space Research Organisation (ISRO) as the Chandrayaan-3 spacecraft reached the Satish Dhawan Space Centre in Sriharikota for a proposed launch in July.

“Every aspect of the mission has been looked at, particularly from the experience of Chandrayaan 2, and all possible precautions have been taken. The mood at ISRO is both upbeat as well as apprehensive,” said Sankaran in an exclusive conversation with News18.

It is at Bengaluru’s UR Rao Satellite Centre that the payload for India’s third moon mission was successfully assembled. ISRO has a point to prove with Chandrayaan-3 as the space agency wants to showcase its ability to safely land a rover on the lunar surface and explore its environment.

The mission is a follow-up to Chandrayaan-2, which was launched on July 22, 2019 onboard the country’s most powerful geosynchronous launch vehicle. It had aimed to land a rover on uncharted lunar South Pole. However, the lander Vikram hard-landed on September 7, 2019, crashing India’s dream to become the first nation to successfully land on the lunar surface in its maiden attempt.

With Chandrayaan-3 reaching Sriharikota, ISRO is busy with the final stages of preparation, hoping to once again lure the nation’s gaze to the moon. The post-flight analysis of the Chandrayaan-2 mission and the learnings from it have been factored in while preparing for next month’s launch.

“Chandrayaan-3 has already reached its launch port. The preparation is going on at Sriharikota, and we do expect that sometime in July, we can launch,” said Sankaran.

Chandrayaan-3 will be carried into space by India’s most powerful rocket, GSLV-MKIII, or LVM-3. The mission will have an indigenous lander module, propulsion module and a rover with an objective of developing and demonstrating new technologies required for inter-planetary missions.

#### **MAJOR GAGANYAAN NEWS BY YEAR-END**

India’s first manned space flight programme Gaganyaan is ISRO’s prime focus after Chandrayaan-3 launch, and the space agency is already working full-throttle on the complex mission.

“Gaganyaan is a very, very intense (mission) with lots of new developments and activities taking place. Many developments are happening for Gaganyaan that are not visible to the public and that is why this question is coming. A lot of work is going on, and we do expect that there will be something which will be visible to people during this year. There will be something which will be newsworthy,” said Sankaran.

Recently, ISRO handed over the recovery module for Gaganyaan astronauts to the Indian Navy for the training of naval recovery teams. The recovery trials were carried out in closed pools at the Water Survival Test Facility (WSTF) of the Indian Navy in Kochi. These pools simulate real-life conditions of the sea and would help validate the standard operating procedure (SOP) for the recovery of the crew and their spacecraft.

Gaganyaan aims to demonstrate human spaceflight capability by launching a crew of three members into an orbit of 400 km for a three-day mission and bringing them back safely to Earth by landing in Indian waters.

<https://www.news18.com/india/chandrayaan-3-reaches-launch-port-satellite-centre-chief-says-isro-upbeat-apprehensive-exclusive-7977811.html>

