September 2022

समाचार पत्रों से चयित अंश
Newspapers Clippings

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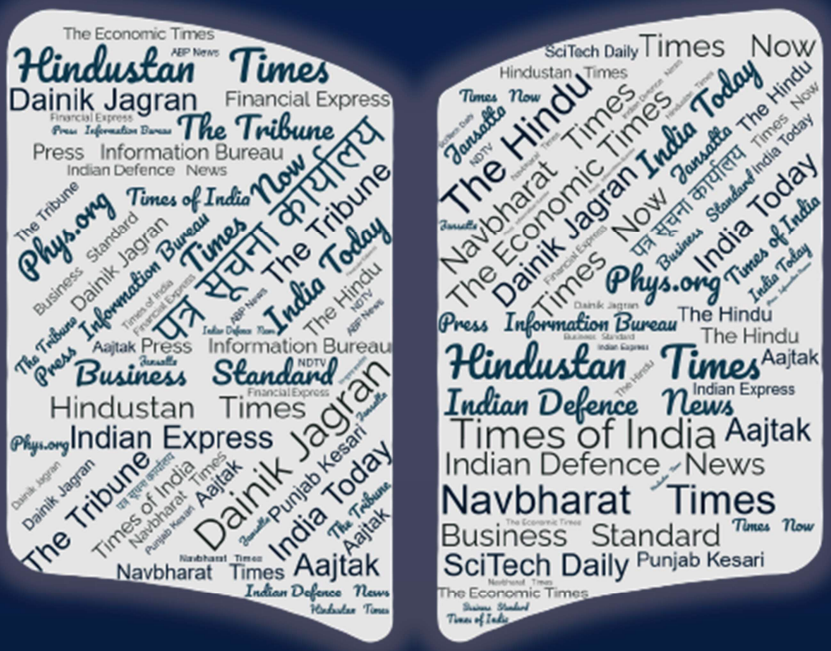

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DRDO News

DRDO Technology News

NewsOnAIR

Wed, 07 Sep 2022

Directed Energy Weapons: India's CHESS Preparing for Future

India has been making tremendous progress in the Defence sector under 'Atmanirbhar Bharat' and the 'Make in India' scheme. While the world is moving towards laser-based weapon systems, India looks up to organizations like the Centre for High Energy Systems and Sciences (CHESS) under DRDO. In India, CHESS is the nodal centre for such evolved and futuristic weapon systems.

Understanding CHESS

The Centre for High Energy Systems and Sciences is a defence lab under the Defence Research and Development Organisation. This lab is located in Hyderabad, Telangana. CHESS conducts research and works on High Energy Laser Systems. The organization has been experimenting with Directed Energy Weapons or DEWs in an attempt to modernize the defence technology of the nation.

These systems destroy hostile targets using laser technology. Any hostile object, whether it is a drone, enemy boat or mortar, that comes in contact with a high-energy laser gets destroyed. In layman's terms, DEWs are capable of destroying or damaging the target temporarily or permanently by focusing high-energy beams or lasers. The application of systems developed by CHESS includes neutralizing targets such as personnel, missiles, drones, vehicles and optical devices on land, air or water.

The innovations by CHESS have already seen application in our Defence and Security forces and the organization has received orders for further production of DEW systems.

In an exclusive conversation with PBNS, Ravi Shankar, a Scientist at CHESS, said that DRDO has a tie-up with Bharat Electronics Limited (BEL) for the mass production of these defence systems as it is only an R&D organization.

"Currently, the defence systems developed by CHESS are employed with Army Air Defence, National Security Guards (NSG) and Special Protection Group (SPG)," said Ravi Shankar at FICCI's event 'Making India a Global Drone Hub.'

DRDO has been working in this domain for the past few years to develop weapon systems of up to 100 Kilowatts of power for short, medium and long ranges. These high-powered DEWs can quietly incapacitate enemy missiles or drones without leaving any physical evidence or debris.

The Race for Laser DEWs

Russia, France, Germany, the United Kingdom, Israel and China are a few of the countries that are working and have robust programmes to develop DEWs or Laser Directed Energy Weapons. DEWs are being used by various militaries as a force multiplier and India is also making simultaneous efforts to keep up with the requirements of modern-day warfare.

India's DEW development includes the DURGA II (Directionally Unrestricted Ray-Gun Array) which is a 100-kilowatt, lightweight directed-energy system. This weapon system will be integrated with the Indian Army and any other platform on land, air or water bodies. There are many projects in progress related to directed energy weapons under DRDO's sleeves. Some of those projects are Kilo Ampere Linear Injector (KALI), Project Aditya and air defence dazzlers.

DEW's role in the Indian scenario

Given India's security concerns, DEWs will play an essential role, especially at a time when our neighbouring countries are also experimenting with such weaponry. DEWs are the weapons of the future. CHESS is working on both the Hard Kill and Soft Kill parts of these weapon systems which will enable us to better engage with threats. These systems will provide India with strategic and operational superiority over its adversaries.

https://newsonair.com/2022/09/07/directed-energy-weapons-indias-chess-preparing-for-future/

THE HINDU

Wed, 07 Sep 2022

India is Transforming itself as a Technology-Exporting Nation

Eminent defence scientist Satheesh Reddy, who is now Scientific Advisor to the Defence Minister after working as chairman of the Defence Research and Development Organisation (DRDO), has said that the winds of change for the better blowing across all sectors and the country are transforming the nation from an entity importing technology to one exporting technology.

Delivering the fourth convocation address of Sharnbasva University online, Dr Reddy said that within five years, the country has seen 73,000 startups setting shop. These startups have come up in all spheres of the industrial sector right from the defence to the ancillary units to the IT industry.

Dr Reddy said that the Ministry of Defence has given the green signal to many new initiatives by startups in select areas of defence production. The Defence Research and Development Organisation is in the forefront of providing liberal assistance to meritorious students with innovative ideas. A sum of ₹10 crore is provided to students submitting bright proposals to the DRDO in defence-related R&D activities and at the industry level, DRDO extends assistance to an extent of ₹50 crore for design and development of innovative technology, he added.

Dr. Reddy said that at the university and centres of higher education level, DRDO provides an assistance of up to ₹50 crore to students to take up research activities in incubation centres in their respective universities for any good project.

“The government has come out with many schemes and projects for the support of research for achieving advanced technology,” he said.

The dedication to the country of its first indigenous aircraft carrier Vikrant by Prime Minister Narendra Modi a couple of days ago is the first major step towards achieving self-sufficiency in defence matters, he added.

https://www.thehindu.com/news/national/karnataka/india-is-transforming-itself-as-a-technology-exporting-nation/article65862197.ece/amp/

TIMES NOW नवभारत

Wed, 07 Sep 2022

स्वदेशी तकनीक में भारत की एक और छलांग, बैलिस्टिक मिसाइल डिफेंस सिस्टम के पहले चरण का काम पूरा

INS विक्रांत के बाद भारत एक और बड़ी उपलब्धि हासिल करने वाला है, भारत को अपना पहला स्वदेशी बैलिस्टिक मिसाइल डिफेंस सिस्टम मिलने वाला है। भारत के बैलिस्टिक मिसाइल डिफेंस प्रोग्राम के पहले चरण को पूरा कर लिया गया है। अब जल्दी इस सिस्टम में डेप्लॉयमेंट के बाद दिल्ली को बैलिस्टिक मिसाइल शील्ड मिल सकेगी जो भारत को किसी भी तरह की बैलिस्टिक मिसाइल से प्रतिरक्षा प्रदान करने में सक्षम होगी। डीआरडीओ पिछले डेढ़ दशक से ज्यादा से बैलिस्टिक मिसाइल डिफेंस प्रोग्राम पर काम कर रहा है।

इस योग्यता के साथ 4 देशों की लीग में शामिल होगा भारत

बैलिस्टिक मिसाइल डिफेंस प्रोग्राम के पूरा होने पर भारत दुनिया के उन 4 देशों में शामिल हो जाएगा जिनके पास अपनी बैलिस्टिक मिसाइल शील्ड बनाने की ताकत है। DRDO का बैलिस्टिक मिसाइल डिफेंस BMD चरण- I का कार्यक्रम अब पूरा हो गया है। अब DRDO ने AD1 और AD2 अगली पीढ़ी के इंटरसेप्टर मिसाइलों के विकास पर दूसरे चरण के कार्यक्रम के तहत काम करना शुरू कर दिया है। जिसके तहत 1500 किमी से 3000 किमी तक की रेंज में शत्रु बैलिस्टिक मिसाइलों को मार गिराया जा सकेगा।

सिस्टम के पहले चरण की तैनाती 2022-23 से शुरू होगी

भारत डायनेमिक्स लिमिटेड (बीडीएल) ने 2021-22 के लिए अपनी 52वीं वार्षिक रिपोर्ट में पुष्टि की है कि उसे एंडो इंटरसेप्टर मिसाइल (एएडी) और एक्सो इंटरसेप्टर मिसाइल (पीडीवी) के लिए उत्पादन का ऑर्डर मिला है जो भारत के बैलिस्टिक मिसाइल रक्षा कार्यक्रम के पहले फेस का हिस्सा है। रक्षा मंत्रालय के वरिष्ठ सूत्रों के मुताबिक, भारत के बैलिस्टिक मिसाइल डिफेंस सिस्टम के पहले चरण की तैनाती 2022-23 से शुरू होगी और यह प्रोग्राम शेड्यूल के अनुसार चल रहा है।

पहले चरण में दिल्ली-एनसीआर को सुरक्षा देगा यह सिस्टम

राजस्थान में दो साइटों पर मल्टीफंक्शन फायर-कंट्रोल रडार (एमएफसीआर) और एल-बैंड लॉन्ग रेंज ट्रैकिंग रडार (एलआरटीआर) लगाने का काम चल रहा है, जिसका इस्तेमाल पहले चरण में दिल्ली एनसीआर क्षेत्र के लिए कवर प्रदान करने के लिए होगा। दूसरे चरण में मध्य प्रदेश में मुंबई क्षेत्र के लिए बैलिस्टिक मिसाइल डिफेंस कवर प्रदान करने के लिए एमएफसीआर और एलआरटीआर साइटों पर काम शुरू होगा। बीएमडी सिस्टम में दो इंटरसेप्टर मिसाइलें शामिल हैं, पहली है पृथ्वी डिफेंस व्हीकल (पीडीवी) - यह वायुमंडल के बाहर (Exo Atmospheric)यानि पृथ्वी से 50-150 किलोमीटर की ऊंचाई के लिये इंटरसेप्टर मिसाइल है। यह मौजूदा पृथ्वी वायु रक्षा (Pruthvi Air Defence-PAD) प्रणाली (प्रद्युम्न) का स्थान लेगी, जिसकी अधिकतम रेंज 80 किलोमीटर है।

पाकिस्तान और चीन दोनों की चिंताएं बढ़ीं

दूसरी है एडवांस्ड एरिया डिफेंस - यह वायुमंडल के भीतर (Endo Atmospheric) यानि पृथ्वी से 20-40 किलोमीटर की ऊंचाई के लिये इंटरसेप्टर मिसाइल है। इसे 'अश्विन' नाम दिया गया है। डीआरडीओ द्वारा बनाए गए इस सिस्टम को जल्द ही पूर्ण रूप से तैनात कर दिया जाएगा। बीएमडी प्रणाली के पहले चरण की रेंज को दूसरे चरण में 5000 किलोमीटर तक बढ़ाया जाएगा। भारत के अलावा ऐसी रक्षा प्रणाली अमेरिका, रूस, चीन और इजराइल के पास भी है। भारत की बैलिस्टिक मिसाइल डिफेंस शील्ड से पाकिस्तान और चीन दोनों की चिंताएं और बढ़ गई हैं क्योंकि यह बैलिस्टिक मिसाइल डिफेंस सिस्टम किसी भी तरह की बैलिस्टिक मिसाइल को दूर से ही इंटरसेप्ट कर नष्ट कर सकता है। विशेषज्ञों के मुताबिक पहले चरण में दिल्ली एनसीआर में इसका डेप्लॉयमेंट इसलिए जरूरी है क्योंकि दिल्ली अति-संवेदनशील है, यहां आर्मी, नेवी और एयर हेड क्वार्टर तो मौजूद हैं ही। साथ ही संसद, मंत्रालय, राष्ट्रपति भवन प्रधानमंत्री आवास समेत तमाम सुरक्षा एस्टेब्लिशमेंट्स हैं जो भारत का नर्व सेंटर कहलाते हैं। दूसरे चरण में मुंबई जोन के लिए बैलिस्टिक मिसाइल डिफेंस सिस्टम तैयार किया जाएगा।

https://www.timesnowhindi.com/india/article/indias-another-leap-in-indigenous-technology-work-of-first-phase-of-ballistic-missile-defense-system-completed/439322

Defence News

Defence Strategic : National/International

Press Information Bureau
Government of India

Ministry of Defence

Wed, 07 Sep 2022 6:02PM

CoE – SURVEI Standardizes Drone Images for Land Survey

Setting World's first standard on land survey using drone, the Ministry of Defense's Centre of Excellence – Satellite and Unmanned Remote Vehicle Initiative (CoE – SURVEI) has published a draft concept paper prescribing the technical parameters which may serve as a reference standard to estimate the image quality of drone survey output. The COE-SURVEI has solicited comments from the stakeholders in this regard for laying down uniform standards to evaluate quality of output of drone images for purpose of land survey.

It may be recalled that no uniform parameters exist for evaluation of images obtained by the use of drones for the purpose of land survey at present. This poses a challenge in carrying out post-processing analysis on the drone imagery output, restricting the ability to extract relevant information from drone data by using AI & ML tools.

CoE – SURVEI, in association with its knowledge partners has taken a lead in developing draft standards for drone survey output, and published the same for seeking views and wider consultations with drone community and other stakeholders. The draft standards prescribe 19 parameters to evaluate quality of drone output and 8 extension metrics/ techniques to estimate image quality, apart from indicating sample benchmarking from literature.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=1857534

THE ECONOMIC TIMES

Wed, 07 Sep 2022

India, B'desh Sign First Defence Deal Under $500m LC

India and Bangladesh signed their first defence contract under the $500 million line of credit (LoC), which was extended by India amid growing dissatisfaction in the Bangladesh armed forces over the quality of Chinese defence hardware in their armoury.

India will supply defence gear under this contract, signed earlier this week during Bangladesh Prime Minister Sheikh Hasina's four-day visit to India, said officials.

Bangladesh military, they said, is also eyeing military hardware from India in the long run amid concerns over the quality of Chinese equipment, which forms the bulk of Bangladesh defence hardware. The first defence contract under the LoC was signed in the backdrop of the fourth India-Bangladesh annual defence dialogue, held in Delhi on August 11, during which the two sides reviewed the ongoing defence cooperation. Defence industrial cooperation was also discussed at that meeting, said people aware of the matter, adding that Bangladesh has also been invited for the upcoming Def-Expo 2022.

Recently, the Bangladesh Army expressed its displeasure over the China North Industries Corporation's supply of tank ammunition and rejected it, said the people.

The Bangladesh government purchased defence equipment worth $3 billion from China between 2011-2020. In 2011, it purchased the Chinese MBT-2000 tank, built by the China North Industries Corporation.

The Bangladesh Army, to modernise its artillery, replaced the Chinese-made pieces by acquiring 155/52 mm Serbian self-propelled rotor Nora B-52. China is reportedly in the process of setting up a maintenance, repair and overhaul centre and submarine base in Bangladesh.

China Precision Machinery Import Export Company also reportedly supplied Bangladesh with some equipment related to the HQ-7 short-range surface-to-air missiles. But the Bangladeshi Navy is dissatisfied with the radars provided by China Shipbuilding and Offshore International, according to those in the know.

According to a recent report of the Stockholm International Peace Research Institute, 47% of China's weapon exports went to its closest ally, Pakistan, while China's next largest clients were Bangladesh (16%) and Thailand (5%) respectively.

https://economictimes.indiatimes.com/news/defence/india-bdesh-sign-first-defence-deal-under-500m-lc/articleshow/94059712.cms

Business Standard

Wed, 07 Sep 2022

Indigenising Gas Turbine Engines a Strategic Necessity; Could Save Rs 3 Trn

By Ajai Shukla

An Indian defence consulting group, Insighteon Consulting, conducted an interactive war-game from August 23-25, to develop a roadmap for an aero engine ecosystem in India.

It was concluded that developing indigenous aero engines was a strategic necessity. The proliferation of unmanned aerial vehicles (UAVs) and low-cost cruise missiles, and the restrictions placed by foreign governments on the export of their engines and components, made it a national security imperative to develop indigenous aero engines and resilient supply chains for them.

Participants acknowledged that the "Make in India" initiative had saved the ministry of defence (MoD) more than Rs 100,000 crore in foreign exchange outflow in the last five years. Similarly, indigenising gas turbine engines would save the MoD Rs 300,000 crore in the next 20 years. Participants in the war-game included scientists and technologists who have been closely associated with indigenous engine-development programmes.

They include retired scientists from the Defence R&D Organisation (DRDO), Indian Space Research Organisation (ISRO), Hindustan Aeronautics Ltd (HAL), National Aerospace Laboratory (NAL), the DRDO's Gas Turbine Research Organisation (GTRE), representatives from private firms such as Godrej Aerospace, Paninian India and Bharat Forge, retired defence officers, bureaucrats, diplomats and think tank members.

It was acknowledged that the field of aero-engine development is not level for the current qualified, and globally certified, private sector players and for academic institutions.

Instead, due to a trust deficit and the absence of inclusive policies for involving private players, aero engine research and development (R&D) remains a monopoly of the public sector. It was concluded that the GTRE's indigenous Kaveri engine project, which was being developed for the Tejas light combat aircraft (LCA), offered a negative model of development. While the Tejas needs an engine with 82-90 kiloNewtons (kN) of peak thrust, the Kaveri only managed 72 kN during flight testing in Russia. The lack of testing infrastructure in India caused a delay of six years in the Kaveri engine development.

Currently, when the DRDO needs to test an engine, it is flown, along with a large flight test team, to the Gromov Flight Research Institute outside Moscow. Here, the engine is fitted onto a

Russian IL-76 aircraft and its performance evaluated in flight. Before flight tests, it must undergo ground checks at Moscow's Central Institute of Aviation Motors, in simulated altitudes up to 15 kilometers (49,200 feet). Creating such a flight-testing facility in India would save hundreds of crores and a great deal of time. Unfit for the Tejas, it was decided that the Kaveri engine should be used in the future as a "dry aero-engine", which means without afterburner thrust. This was felt to be sufficient for powering the unmanned fighter aircraft that are planned for the future – such as the RPSA, the Ghatak and other 3-8 tonne platforms. It was felt that the importance of the small aero engine segment, which powered UAVs and low-cost cruise missiles, was underestimated. With India spending an increasing share of its defence budget on these, the small engine market for the next 20 years would be Rs 61,000 crores.

It was concluded that co-development of engines with original equipment manufacturers (OEMs) overseas would not result in new designs or modification/upgrade capability. For that, India would need to continue its efforts to develop indigenous engines in mission mode. As a first step, the MoD needed to impose restrictions on itself on import of small aero engines, by adding them to the "positive indigenisation list".

Furthermore, the DRDO and NAL should be encouraged to release tenders for smaller engines to private entities, not just to GTRE/HAL.

It was recommended that the development of small engines should follow the 1 + 2 model, i.e. be developed by a consortium of a DPSU/DRDO laboratory, working with two private sector companies. Finally, it was decided that a new structure, titled National Commission for Aero Engine Development (NCAED), should be created in order to have a single head under which design, development and production would come. It was felt this would promote a seamless, coordinated development programme.

https://www.business-standard.com/article/economy-policy/indigenising-gas-turbine-engines-a-strategic-necessity-could-save-rs-3-trn-122090800036_1.html

Hindustan Times

Thu, 08 Sep 2022

Army Reorients Forces to Sharpen Focus along LAC's Eastern Sector

The Indian Army, which has focused on counter-insurgency operations in the North-east for decades, has carried out an overarching reorientation of its forces to sharpen its focus on the Line of Actual Control (LAC) in the eastern sector, even as induction of new weapons and systems, capability building and a strong infrastructure push form the bedrock of its strategy to counter challenges along the border with China, officials said on Wednesday.

The army is strengthening its posture in the country's east at a time when India and China have been locked in a tense standoff in the Ladakh sector since May 2020, with resolution of problems there appearing to be elusive despite intense military and diplomatic negotiations.

The army is firmly focused on the LAC here and now has bare minimum involvement in counter-insurgency operations, with a multi-pronged strategy for capability enhancement through induction of new systems, technologies and extensive infrastructure development, said Major General MS Bains, a decorated Special Forces officer and commander of the army's Dinjan-Headquartered 2 Mountain Division.

The reorientation towards conventional combat began around two years ago and has been completed with only one army formation – the Laipuli-headquartered 73 Mountain Brigade – deployed for counter-insurgency operations, one of the officials cited above said on condition of anonymity.

"The security situation in the North-east has improved significantly. That has lightened the army's burden and allowed it to focus fully on the border with China," the official said.

To be sure, the army has also realigned the operational role of its formations to bolster its war-fighting capabilities in the Ladakh theatre – the Mathura-headquartered 1 Corps has been reassigned to the northern borders where despite disengagement of soldiers from Galwan Valley, Pangong Tso and Gogra-Hot Springs area, the two armies still have around 60,000 troops each and advanced weaponry deployed.

While the standoff is ongoing in eastern Ladakh, the eastern sector cannot be ignored, said former Northern Army commander Lieutenant General DS Hooda (retd). "Particularly in certain areas of Arunachal Pradesh, the road infrastructure is still inadequate. The push now being given to capability building and infrastructure will be a deterrent for any action by the PLA in this sector," Hooda added.

The infrastructure push encompasses building of roads, bridges, helipads, habitat for soldiers, ammunition holding areas and other logistics facilities to support forward-deployed soldiers, said a second official, who also asked not to be named.

"The army has set deadlines for capability development in the eastern sector to achieve functional efficiency," said Bains.

The army has deployed several modern weapons, ISR (intelligence, surveillance and reconnaissance) systems, high-tech sensors and radars, unmanned aerial vehicles and modern communication equipment in the eastern sector, officials said. Calls for reorientation of forces towards conventional combat were made long before the current border standoff erupted.

Several parliamentary panels have made recommendations in their reports over the years to reduce the army's exposure to counter-insurgency and counterterrorism duties because it results in blunting the force's focus on its main task – defending the country from external aggression.

Brigadier KS Gill, commander, Headquarters 73 Mountain Brigade, said while his brigade has been assigned counter-insurgency duties, there's no question of not training for a conventional war.

https://www.hindustantimes.com/india-news/army-reorients-forces-to-sharpen-focus-along-lac-s-eastern-sector-101662575147739.html

THE HINDU

Thu, 08 Sep 2022

Time for a Joint Space Exercise

By Vinayak Dalmia and Vrinda Kapoor

India and the U.S. will undertake joint military drills in October in Auli, Uttarakhand. Auli is at an altitude of 10,000 feet and some 95 km from the Line of Actual Control (LAC).

The time is ripe for the inaugural India-U.S. joint space military exercise. First, this single act will push India's defence partnership into a new orbit. Second, it will send a strong message to a common adversary. Third, it will have other ripple effects for the wider Quad.

Space has been singled out as a critical area of cooperation in the recent Defence Technology and Trade Initiative (DTTI) meeting between India and the U.S. For the first time in history, both countries are jointly staring at a common adversary. Nothing binds friends together as sharing the same displacement anxiety.

A military domain

Space as a military domain is a well-accepted fact. In 2019, the U.S. stood up its space force as a branch under the department of the Air Force. At the time, it became the world's only independent space force. In India, historically, space has remained the sole jurisdiction of its civilian space agency, the Indian Space Research Organisation (ISRO). However, the successful demonstration (dubbed Mission Shakti) of anti-satellite (ASAT) missile test in 2019 changed things forever. The same year, India conducted its first ever simulated space warfare exercise (IndSpaceX) with an eye on Chinese threats.

Furthermore, the launch of the tri-service Defence Space Agency (DSA) has permanently taken the military away from the shadows of civil space. The government has also set up the Defence

Space Research Agency (DSRA) to help develop space-based weapons for the DSA. Space is as much recognised as a military domain as land, water, air and cyber.

India and the U.S. do drills on land, in air and at sea. Why not extend it to the fourth domain? It is inevitable as both countries can expect the exact same conversation happening in their adversary's strategy rooms.

It will have actionable spill overs for the Quad, transform the moribund DTTI from a talk shop and send the right message to the adversary.

The lowest hanging fruit would be a joint anti-satellite (ASAT) missile test. It is essentially a missile launched from the Earth's surface to destroy a satellite passing overhead. Both countries have demonstrated capability in this. The test would be against a simulated orbital target as that does not create space debris and is not included in the wording of the U.S. moratorium.

Eventually, this will lead to other space military collaborations such as directed energy weapons, rendezvous and proximity operations (RPOs), co-orbital ASATs (in space micro satellites as a kinetic kill option), etc.

Space programmes

Every country worth its weight in salt is working on the military aspects of space. France conducted its first space military exercise, ASTERX, in 2021. China is marching ahead to the Cis-Lunar space (region beyond the geosynchronous orbit) with an ambition to establish a permanent presence on the Moon by 2024.

The doctrine in space is still evolving with the U.S. urging partner countries to lay down rules and norms. China and Russia have released a draft binding treaty of their own. Red lines and norms will eventually emerge but until then it provides an ideal new theatre to push Indo-U.S. military collaboration forward.

Space has assets that form the bedrock of the modern economy — GPS (PNT — position navigation timing), telecom networks, early warning systems for missiles and weather forecasts all are enabled by our satellites in GEO or LEO orbits.

But there could be some expected pushback from the usual naysayers. First, it will provoke our eastern neighbour and compel them to draw a new redline. Second, our eastern neighbour will use our western neighbour as a proxy state. Third, it will derail the ongoing Core Commanders dialogue in Ladakh. Fourth, the United States cannot be trusted. Fifth, it will fastback militarisation for space. Our response to all the above is that it is an inevitable trend unfortunately, notwithstanding our action or inaction.

Changing times now require us to innovate on doctrines, technologies and deterrence. Xi Jinping is on his way to building a "world-class" Chinese military by 2049. If India is to become a space power and if the Indo-U.S. partnership is to become the alliance of alliances, then imaginative steps will be needed. It is time for the India-U.S. military collaboration to get bolder and travel from mountains to outer heavens.

https://www.thehindu.com/opinion/op-ed/time-for-a-joint-space-exercise/article65861264.ece

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US Military Successfully Tests Intercontinental Ballistic Missile

The US military tested an unarmed intercontinental ballistic missile on Wednesday, the second in less than a month after a previous launch was delayed twice. Washington announced the test in advance, an unusual move apparently aimed at heading off an escalation of tensions with Russia that are already heightened due to Moscow's invasion of Ukraine.

"Air Force Global Strike Command Airmen launched an unarmed Minuteman III intercontinental ballistic missile equipped with three test re-entry vehicles" early on September 7 from the Vandenberg Space Force Base in California, the US Air Force said in a statement.

In a conflict, the re-entry vehicles would be armed with nuclear warheads. "This test launch is part of routine and periodic activities intended to demonstrate that the United States' nuclear deterrent is safe, secure, reliable and effective," the statement said.

"This test is not the result of current world events," it added.

The US Air Force successfully launched a Minutemen III ICBM on August 16, after having postponed the test twice to avoid stoking tensions over Ukraine and Taiwan. The Minuteman III has been in service for 50 years, and is currently the only land-based ICBM in the US nuclear arsenal. The missiles are housed in silos on three US military bases in Wyoming, North Dakota and Montana. The US arsenal also includes Trident submarine-launched ballistic missiles and nuclear weapons carried by strategic bomber aircraft.

https://www.hindustantimes.com/world-news/us-military-successfully-tests-intercontinental-ballistic-missile-101662567963336.html

Science & Technology News

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WHO Praises India's First COVID-19 Nasal Vaccine; Calls it the 'First Line of Defence'

A day after Bharat Biotech got emergency use authorisation from the Drugs Controller General of India (DCGI) for the Intranasal Covid-19 vaccine, WHO lauded the development and said it could help to bring the pandemic under control. Recently, both India and China developed their homegrown nasal vaccines. In the first, China launched its inhalable Covid vaccine, Convidecia Air on Sunday. The vaccine is made by CanSino Biologics and administered through a nebuliser. On the other hand, New Delhi approved a nasally-administered vaccine for emergencies on Tuesday. Although the World Health Organisation welcomed the development but added it needs to analyse the data in order to approve globally.

WHO emergencies director Mike Ryan, while addressing a press conference on Wednesday, noted that the nasal sprays can generate "the first line of defence at where the virus enters and causes a lot of damage." He said the World health agency would assess the data and then encourage its use at the global level. "Linking both the mucosal vaccine with an injectable vaccine allows you to give full protection. Nasal vaccines offer us a much stronger prospect for control of COVID19 in the long run, but that remains to be seen...We don't have access to that data yet. But we do look forward to that and we encourage the kind of work that develops new innovative vaccines," he said.

The development has also been welcomed by Maria Van Kerkhove, the WHO's technical lead on Covid-19. She also voiced analysing the data before granting approval to the whole world. "We look forward to seeing the data to see how this could be incorporated into the response for Covid-19," Kerkhove said.

One person died of COVID every 44 seconds: WHO Chief

> The global decline in reported cases and deaths is continuing. This is very encouraging. But still, last week one person died with #COVID19 every 44 seconds. Most of those deaths are avoidable.
>
> Get vaccinated.
>
> Wear a mask.
>
> Avoid crowds.
>
> Open windows.
>
> — Tedros Adhanom Ghebreyesus (@DrTedros) September 7, 2022

Meanwhile, in another presser, WHO chief Tedros Adhanom Ghebreyesus underscored that cases of the lethal virus have been declining rapidly but noted that death related to it was still prevalent in several countries. According to the WHO chief, at least one people die of the Coronavirus every 44 seconds and added most of the deaths could be avoidable. "It's great that COVID19 vaccination coverage of high-priority groups is improving, but still 1/3 of the world's population remains unvaccinated, including 2/3 of health workers and 3/4 of older adults in low-income countries. Vaccine equity is the best way to drive a sustainable recovery," he noted.

https://www.republicworld.com/world-news/rest-of-the-world-news/who-praises-indias-first-covid-19-nasal-vaccine-calls-it-the-first-line-of-defence-articleshow.html

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Professor from Chennai to Head Continental Mathematics Panel

The Committee for Women in Mathematics, which is a part of The International Mathematical Union, announced on its website that the Asia-Oceania Women in Mathematics (AOWM), the continental organisation for women mathematicians, has been established by an online meeting on August 1, this year.

With over 200 founding members from the continents, the organisation will have as its first president Sanoli Gun, a professor of mathematics at The Institute of Mathematical Sciences, Chennai, who specialises in Number Theory. There are two vice-presidents – Melissa Tacy from University of Auckland, New Zealand, and Polly Sy from University of Philippines Diliman, Philippines – and executive committee members including women mathematicians from Korea, Indonesia, Japan, China, Kazhakstan and Iran.

Among its myriad activities, the International Mathematical Union is the body that awards the Fields Medals, the highest honour in mathematics. It is the largest organised body of mathematicians across the world.

"We have to set the tone, and generate funds to actually make all the programmes happen. We have to create a logo and a website to start with. We also have to integrate… Asia is a very diverse continent, and there is Oceania. So there's a lot of work ahead," Said Prof. Gun.

The goal of this committee is threefold – facilitate exchange of knowledge between all the member countries, and improve the number of women mathematicians working on their Ph.Ds in mathematics and the mathematical sciences. The second goal is to help women who have Ph.Ds, but somehow get lost in the system. "Maybe we can create some fellowships," says Prof Gun. The third goal is to make conditions more favourable for those women in faculty positions in various institutes. This will help check the so-called 'leaky pipeline'. "About steps specific to Asia and Oceania, we will have a better idea after our first EC meeting in September," she said.

She also pointed out that when a young person takes up research in mathematics, the names she or he encounters are usually Ramanujan and Harishchandra, and very few are inspired. The importance of having the work of great women mathematicians thrown into prominence is therefore obvious. Prof. Gun also mentioned that her colleagues from Europe had spoken of having an exhibition that describes the phenomenal work done by women in mathematics.

Unlike in literature, there are no prizes specifically for women in mathematics. “This is one of the things we will try to get for young people,” she said.

Women in research and even in faculty positions face a lot of discrimination. “One way to tackle this is by creating more women mathematicians,” Prof. Gun said.

https://www.thehindu.com/sci-tech/science/chennai-based-woman-to-head-newly-formed-asia-oceania-women-in-mathematics/article65862272.ece